CITY OF HOLLISTER

COMPLETE STREETS PLAN FOR NASH/TRES PINOS/SUNNYSLOPE ROADS AND MCCRAY STREET

Draft Plan

NELSON
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1 INTRODUCTION

The study area of this project focuses on two transportation corridors in the city of Hollister, California. The first comprises Nash, Tres Pinos, and Sunnyslope Roads, extending east from Powell Street to Memorial Drive. This corridor was formerly part of State Route 25 that was under Caltrans jurisdiction until its transfer to the City of Hollister in March 2014 after completion of the new State Route 25 bypass (Airline Highway). The second corridor is McCray Street, extending north from Tres Pinos Road to 4th Street. Under the previous State Route 25 configuration McCray Street served as a bypass to San Benito Street, the community's "main street." The new configuration has changed the contextual function of these corridors, giving the City and community an opportunity to redesign them to better support multimodal transportation for Hollister residents, businesses, schools, and future development.

This transportation plan was developed through an active public engagement process, consisting of three stages of public workshops, stakeholder meetings, and community surveys that took place in Hollister between September 2013 and March 2014. These were key elements toward visioning and designing concepts built on a foundation of the community's goals for Complete Streets in Hollister.

Transportation planning and design professionals from San Francisco-based Nelson\Nygaard Consulting Associates and the Sacramento-based Local Government Commission (LGC) met with Hollister community members and leaders, including Hollister Youth Alliance, in an effort to learn more about issues facing the community and discuss opportunities for innovative transportation policy and design. The transportation effort was led by Nelson\Nygaard in collaboration with this team and City staff.

This plan describes the ideas developed throughout this process. The main body of the plan is focused on transportation in the Nash/Tres Pinos/Sunnyslope Roads and McCray Street corridors. The plan contains a range of recommendations, from low-cost, near-term ideas to longer-term concepts. It is intended to be used by City officials and community members as a guide for prioritizing potential investments in the public realm in these corridors, as well as possible changes to City policy. Fundamentally, the plan is a synthesis of community aspirations and professional expertise represented throughout the public engagement process.

2 EXISTING AND FUTURE TRANSPORTATION CONDITIONS

The city of Hollister, California is the county seat and largest city in San Benito County, with an estimated population of 36,100 residents as of 2012[1]. Hollister's population includes various typically underrepresented ethnic communities – 66 percent people of Hispanic or Latino origin, and lower per capita income levels when compared to statewide averages[2]. Educational and health services constitute a major part of Hollister's local economic activity, along with retail and manufacturing. The study area is home to several schools, including San Benito High School, Rancho San Justo Middle School, and Sunnyslope Elementary School. Other schools in the vicinity include R.O. Hardin Elementary School and Ladd Lane Elementary School.

This plan focuses on developing complete streets corridors along Nash/Tres Pinos/Sunnyslope Roads and McCray Street. The study area encompasses a rich mix of land uses and institutions, including single- and multi-family residential neighborhoods, elementary to high schools, senior community centers, and a substantial amount of low-income housing. The area in proximity to Tres Pinos Road is a vibrant commercial area, with new businesses choosing to establish themselves at the juncture of a highway and major city corridor rather than in the traditional downtown area.

While users of Nash/Tres Pinos/Sunnyslope Roads and McCray Street range across motorists, pedestrians, and cyclists of all ages, the corridor's existing design is largely automobile-oriented, neglecting the needs of non-motorist users. Residents are particularly concerned for the safety of school children who walk along the corridor in large numbers and need to cross in several locations. Because Nash Road and Tres Pinos Road have historically been designated State Route 25, the City did not have jurisdiction over the design of these streets until recently. With the new Route 25 bypass, the role and character of these streets within Hollister can change to better serve the surrounding community and all its existing users.

A map depicting the study area and corridors is shown in Figure 2-1, below. The streets constituting the focus of this study may be described as follows:

- *Nash Road* is the easternmost segment of the Nash/Tres Pinos/Sunnyslope east-west corridor and a truck route. This study's focus on Nash Road begins to the west of Powell Street, where Nash Road bisects San Benito High School, to its intersection with Cushman Street before becoming Tres Pinos Road. West of San Benito Street, Nash Road has a right of way of 58 feet, one travel lane on either side, and a bike lane in one direction (on the side of the school, eastbound). To the east of San Benito Street, Nash Road has no bike lanes, significantly narrower sidewalks, one travel lane in each direction and a shared center turn lane. Nash Road features two four-way stop-controlled intersections at West Street and Monterey Street. A four-way signalized intersection at Nash Road and San Benito Street is identified as one of the most congested intersections in Hollister. A substantial number of high school students utilize the road while traveling between school and the residential developments to the east and west.

[1] US Census. 2012. US Census Quick Facts. http://quickfacts.census.gov/qfd/states/06/0634120.html

[2] Ibid.

Figure 2-1 Project Overview

- *Tres Pinos Road* spans from the west of Rancho Drive to the east of Highway 25. The right-of-way of Tres Pinos Road ranges from 60 feet to 116.5 feet. The wide cross-sections are found close to Highway 25 to accommodate a number of turning movements. The road features sidewalks on both sides and transitions from one travel lane separated by a shared turning lane to two travel lanes in each direction separated by a median and left- or right-turn lanes on either side. There are no dedicated bicycle lanes or shared lane markings. Tres Pinos Road has two four-way signalized intersections. The road is primarily bordered by parking lots serving commercial development, and is a primary access route via Rancho Drive to one of Hollister's two junior high schools.
- *Sunnyslope Road* begins to the east of Highway 25, featuring five to six feet wide bike lanes and two travel lanes in both directions for its entire span to just east of Memorial Drive. The right-of-way on Sunnyslope Road ranges from 75.5 to 83 feet for most of the segment within the study area. It runs along a vacant 6.9 acre zone slated for mixed-use development and a single family residential subdivision. The intersection of Sunnyslope Road and Memorial Drive is adjacent to medical offices, Sunnyslope Elementary School, apartment complexes, and single family homes.
- *McCray Street* runs north-south from north of South Street to Sunset Drive. It is surrounded by commercial land use to the west and vacant, recently-annexed commercial land to the east. The road features one to two travel lanes in each direction, with a right-of-way ranging from 40 to 45 feet south of South Street, and a right of way of approximately 86 feet north of South Street. There are no bike lanes on McCray Street and the majority of its stretch is without sidewalks. McCray Street formerly provided a bypass around downtown before the completion of the actual Highway 25 bypass was built. McCray Street provides access to Gibson Stations condominium

development, Rancho San Justo Junior High School, Prospect Villa senior apartments, some commercial uses, and single family homes.

DIMENSIONS

Nelson\Nygaard measured widths of each element within the right-of-way at a series of representative locations on the Nash/Tres Pinos/Sunnyslope Roads and McCray Street corridors. Dimensions derived from these measurements are shown in Figure 2-2. Note that sidewalks are not always present on both sides of the roadway—particularly on McCray Street, where sidewalks are completely absent at times.

Figure 2-2 Cross-Sectional Dimensions

Location	Right-of-Way (ft)	Curb-to-Curb (ft)	Sidewalks (ft)*
Nash			
West of Powell	58.0	41.0	8.0, 5.0
West of Monterey	58.0	40.0	10.0, 4.0-8.0**
East of San Benito	56.0	38.0	4.0, 6.0
Tres Pinos			
West of Rancho	60.0	41.0	10.0, 9.0
East of Rancho	70.0	52.0	10.0, 8.0
Between Rancho & Ladd	84.0	64.0	9.0, 11.0
West of Ladd	90.0	72.0	8.0, 10.0
East of Ladd	103.5	88.0	5.5, 10.0
West of Highway 25	116.5	106.0	5.0, 5.5
Sunnyslope			
East of Highway 25	103.5	91.5	5.5, 6.5
West of Versailles	75.5	64.5	5.5, 5.5
West of Memorial	75.5	64.5	5.5, 5.5
East of Memorial	83.0	65.0	5, 5
McCray			
North of Gibson	38.5	37.5	N/A
Sports Complex	40.0	39.0	N/A
North of Park	41.0	35.0	N/A, 5.5
South of Hawkins	41.0	34.5	N/A
North of Hawkins	45.0	44.0	N/A
North of South	86.0	74.0	6.0, 6.0
Between South and Sally	87.0	74.0	7.0, 6.0

*Sidewalk widths are reflected for both sides of the street (south to north and west to east), separated by a comma. The sidewalk is defined as the space available for people to walk. It excludes landscaped buffers, but includes curbs if no buffers are present.
**The dashed number reflects the variation of the sidewalk.
Where sidewalks are not present, N/A is listed.

DATA

Traffic Counts

For most street segments in Hollister, the most recent available daily traffic counts are from 2006. Average Daily Traffic (ADT) values made available by the City of Hollister are shown in Figure 2-3 below. The City acquired automated traffic counters in 2013 and discussed conducting new counts; however the data was not yet available for this report.

Figure 2-3 Average Daily Traffic, 2006

Cross-street	2006 ADT
Nash Road	
Between Homestead Ave and Powell St	7,170
San Benito St	7,791
Sunnyslope Road	
Versailles Dr	14,395
Clearview Dr	7,392
McCray Street	
Park St	15,905
Gibbs Dr	16,035
Las Palmas Dr	14,510

For traffic analysis, turning count data was used from the Rajkovich Development ITA report (2013). This report includes detailed turning counts for Nash Road at San Benito Street, Nash Road at Cienaga Road, Tres Pinos Road at Cushman Street, and Tres Pinos Road at Ladd Lane.

Collisions

Statewide Integrated Traffic Reporting System (SWITRS) data for the years 2007 to 2011 (the most recent 5-year-period with complete data) indicate that there were a great number of automobile collisions in Hollister during this period (1056, or the equivalent of nearly 4 collisions each week), with almost half of these collisions contributing to an injury. Within the study corridor, the greatest number of collisions occurred on Nash Road, followed by McCray Street, Tres Pinos Road, and Sunnyslope Road, as shown in Figure 2-4.

The most frequent violations that resulted in collisions, shown in Figure 2-5, include disobeying basic speed laws (20.6%), illegal turning movements and disobeying required signals (15.6%), driving under the influence (10.2%), and improper starting or backing (5.6%). Increased speed on streets can be the result of street design—wider streets contribute to speeding as they appear to be free of obstacles. When collisions with cyclists and pedestrians occur at high automobile speeds, the collision becomes more severe and the possibility for fatalities increases. However, when streets are designed with traffic calming measures, such as bulb-outs, protected bike lanes, and landscaped medians or buffers, automobile speeds slow down and provide safer conditions for other users. Increased speeds, illegal turning movements,

improper starting and backing, and disobeying of signals create an unsafe environment for cycling and walking. While the collisions result from individual driver's behavior, changes to the physical environment can support safety, convenience, and comfort for cyclists and pedestrians.

Figure 2-4 Basic Collision Statistics, 2007-2011

Category	Count	Percentage
Total number of collisions	1,056	100.0%
Bicycles involved	61	5.8%
Pedestrians involved	61	5.8%
Collisions on Nash Road	71	6.7%
Collisions on Tres Pinos Road	45	4.2%
Collisions on Sunnyslope Road	44	4.2%
Collisions on McCray Street	49	4.6%
Fatalities	2	0.2%
Collisions with Bicyclist Fatality	0	0.0%
Collisions with Pedestrian Fatality	2	0.2%
Injuries	434	41.1%
Collisions with Bicyclist Injury	42	4.0%[3]
Collisions with Pedestrian Injury	54	5.1%[4]

Figure 2-5 Most Frequent California Vehicle Code Violations

CVC Violation	Count	Percentage
Basic speed law	218	21%
Turning movements and required signals	165	16%
DUI (alcohol and drugs)	108	10%
Improper starting or backing	59	5.6%

Parking

While parking occupancy rates and analysis were not within the scope of this study, parking circulation and driveway access is an important consideration for businesses in the Tres Pinos Road commercial area. Consolidating driveways connecting to these parking lots from Tres Pinos Road would reduce delays caused by conflicting movements along the corridor and improve the pedestrian environment along the corridor. Many of these lots have internal connections to each other and thus would likely be minimally

[3] 9.7% of all injury collisions.

[4] 5.1% of all injury collisions.

impacted by driveway consolidation. Exploring driveway consolidation would be a helpful part of the next phase of project development.

These locations would also be a natural place to encourage shared parking between adjacent uses. A careful analysis of shared parking demand on a shared parking plaza might generate additional space for more commercial development. Adopting a shared parking ordinance could facilitate improving existing parking lot connections by allowing neighboring businesses to pool their parking supplies. This would lower the supply needed to meet demand, because different types of businesses experience peak demand at different times of day. Shared parking also frees up additional land that can be used for vehicle circulation, pedestrian or bicycling facilities, or potentially even new development.

Discouraging cut-through traffic through parking lots to access other streets and commercial destinations—such as the new Walgreens site—was established as a priority early in this planning process. Cut-through traffic unnecessarily increases parking lot congestion and raises the risk for vehicular collisions with pedestrians and cyclists.

Transit

County Express Transit System operates three bus routes – Green Line, Blue Line, and Red Line -- in Hollister on weekdays during peak hours (6 to 11 a.m., and 2 to 6 p.m.). Buses run with a headway ranging from 30 minutes to one hour. All three bus routes meet at Fourth and San Benito Streets, which also serves as a transfer station for bus service to other counties.

Each of these lines serves the Nash/Tres Pinos/Sunnyslope Roads corridor at various stops. Near Tres Pinos Road and Rancho Drive, the Red Line serves the YMCA every 52 to 69 minutes. Across from this bus stop, the Green Line serves Union Bank every 34 to 49 minutes. The Green Line also serves San Benito High School at the Nash Road and Powell Street intersection, and mid-block between Monterey Street and West Street. The Blue Line also serves San Benito High School at Nash Road and Powell Street with frequency varying between 14 and 57 minutes.

Inter-county transit service serves Gilroy's Caltrain station, Gavilan Junior College, and Gilroy's Greyhound station. Shuttle service to the Caltrain station and Gavilan Junior College runs on weekdays only from 4:30 a.m. to 9 pm. The shuttle service also provides connection to Caltrain service running (8 trains per day) between Gilroy and San Jose. Transit service to Gilroy's Greyhound stations is provided all week long between 7:30 a.m. and 5 p.m.

Non-Motorized

Pedestrian and bicycle volume data was not available for the entire study corridor. However, San Benito High School conducted a traffic study in 2007, prior to construction of the new State Route 25 bypass, focused on providing safer, more convenient facilities for pedestrians and cyclists. Traffic counts including vehicles and pedestrians were collected during a 72-hour period during the fall school semester. The results are presented in Figure 2-6 below.

Figure 2-6 Traffic Volumes on Nash Road at San Benito High School, 2007

Location	Daily Vehicle Volume	Daily Pedestrian Volume
Nash Road		
Between West St and Monterey St	7,800	11,578
Between Monterey St and San Benito St	9,600	N/A

The study identified conflicts between pedestrian and vehicular activity as the primary safety issue near the San Benito High School campus. During school hours, the school employs crossing guards to hold traffic while students cross between the two halves of the campus. The system works fairly well, but due to the very large numbers of students there can be significant delays for through traffic on Nash Road during school recesses.

Figure 2-7 Students Crossing at San Benito High School

Source: Nelson\Nygaard, 2014

Figure 2-8 Vehicle Queues during Student Crossing Periods at San Benito High School

Source: Nelson\Nygaard, 2014

RELEVANT PLANNING DOCUMENTS

- *City of Hollister General Plan*

  Hollister's most recent General Plan was adopted in December 2005 and its Circulation Element provides a glimpse into the City's approach to their transportation network. The document provides an overview of Hollister's roads, local transit service, commuter rail, bicycle, and pedestrian services as of 2005. The city Circulation Element breaks down the city's roadway network into highways, major thoroughfares, major collectors, and residential roads. Tres Pinos Road and Sunnyslope Road are identified as the city's major collectors, roads that are approximately two lanes wide and expected to carry up to 20,000 vehicles per day and maintain a speed of 30 to 35 miles per hour. The City's standard level of service (LOS) for signalized intersections is defined to be "LOS C." The intersections of San Benito Street and Nash Road, and McCray Street and Hillcrest Road are identified as two of the four intersections citywide that operate below standards. Overall, the plan's recommendations – largely suggesting road widening to combat traffic — tend to reveal a more car-centric view of the city's transportation network in comparison to the recently updated County General Plan. It might be helpful, or perhaps necessary, to include elements that support Complete Streets goals for these corridors and others as appropriate in the next update or amendment to the Circulation Element.

- *San Benito County Bikeway and Pedestrian Master Plan*

  The San Benito County Bikeway and Pedestrian Master Plan was last updated in 2009 with the purpose of expanding and connecting gaps in existing bicycle and pedestrian networks, as well as bringing light to bicyclist and pedestrian mobility issues within San Benito County. The Master Plan also helps prioritize projects by utilizing a countywide network to weigh different projects. Nash/Tres Pinos/Sunnyslope Roads and McCray Street in Hollister are all recommended for Class II bicycle lanes and identified as Tier I – or top priority – bikeway projects for completion. The prioritization criteria used to evaluate investments is based on increased connectivity to parks, major employment centers, schools, network gap closure, public input and safety. Recommended pedestrian improvements include better signal timing for pedestrian crosswalks, audible cross signals, ramps, and crosswalks with greater visibility, particularly at unsignalized intersections.

- *San Benito County General Plan*

  The Draft Circulation Element of the San Benito County General Plan proposes to establish the framework of policies that shape the county's transportation system. The County's Draft General Plan outlines policies with respect to the county's road network, bicycle and pedestrian trails, public transit, air transportation, transportation demand management, and goods movement. Roadway classifications are denoted as freeways, state highways, expressways, arterials, and collectors. The document stresses the use of a context-sensitive approach and in encouraging a multi-modal transportation system in "appropriate" areas of the county, and in prioritizing efficiency of good movement in areas that have agricultural or manufacturing significance. Complete streets are endorsed by the Draft San Benito County General Plan with a commitment to encourage walkable communities, traffic calming, and human-scale streets. The Draft General Plan promises the development of a County Bikeway and Pedestrian Master Plan that gives priority to bicycle travel on all new streets classified as arterials or collectors.

In addition to the policy documents previously described, the City's zoning code is relevant to this project, as it shows the various uses that can be accessed by the varied travelers in these corridors. The City's current land use zoning designations are shown in Figure 2-9.

Figure 2-9 City of Hollister Land Use Map[5]

[5] City of Hollister. December 2005. "City of Hollister General Plan: Land Use Plan."

PUBLIC COMMENTS

In order for the plan to be responsive to community concerns, a number of stakeholder interviews, public meetings, and open houses were held. Following are major themes that emerged through this process:

- *Commercial/economic development:*
  - Developers and business owners support street improvements but are concerned about costs being passed down in the form of higher upfront development fees.
  - Roundabouts, in particular, could raise property values in the long term as gateways that improve access to the property.
  - Large numbers of commercial driveways and high traffic speeds along Tres Pinos Road encourage cut-through traffic. Making left turns out of lots are challenging due to high speeds.
- *Residential growth and access:*
  - Residents are concerned about overgrowth of landscaping which diminishes available sidewalk space for pedestrians.
  - New development is anticipated on Sunnyslope Road east of State Route 25, where a vacant parcel is currently zoned for neighborhood commercial/mixed uses.
  - New mixed use development is anticipated south of Tres Pinos Road at Ladd Lane, on the vacant lot behind the K-mart.
- *Infrastructure issues*:
  - Pavement quality is less than satisfactory on portions of Nash Road.
  - Residents would like to see greater continuity in bike lane facilities block to block.
  - The Tres Pinos/Rancho intersection is under consideration for signalization with new incoming development.
  - Residents are concerned about wide vehicle travel lanes along Nash/Tres Pinos Roads.
  - Tree uprooting and sidewalk maintenance create unsafe pedestrian environments.[6]
  - There is a need for midblock crosswalks, visible crosswalks, and ADA-compliant curb cuts.[3]
  - The corridor lacks shade trees and landscaping near Nash Road/Monterey Street, Tres Pinos Road/Airline Highway, and Tres Pinos Road/Rancho Drive.[3]
  - The sound wall near Tres Pinos Road/Airline Highway decreases visibility for drivers, and as a result, creates an unsafe environment for pedestrians.[3]
  - The width of the corridor makes crossing the street difficult, providing a barrier between destinations on either side of the street.[3]
- Civic/institutional sites:
  - San Benito High School
    - School administration officials and neighboring residents are concerned about conflicts between travel modes, particularly between pedestrians, vehicles, and cyclists—and especially for students crossing the road.
    - Neighboring residents perceive there to be a large number of automobile collisions along Nash Road.

[6] Valentine, Regina. (2013). "Streets for People Aged Eight to Eighty: Complete Streets Audits of Two Major Corridors in Hollister, California." San Jose State University.

  - Rancho Justo Middle School
    - School administration officials desire improved circulation and staging areas for drop-off and pick-up, as well as better crossings for students walking to school.
  - Sunnyslope Elementary School
    - Vehicles queuing to enter the school's driveway on Memorial Drive back up during peak times, affecting queue lengths in the left turn pocket on Sunnyslope Road.
    - There are similar concerns for safer student crossings at this location as with San Benito High School and Rancho San Justo Middle School.

- *Multimodal safety*:
  - Evening pedestrian and vehicle activity at Rancho San Justo Field on McCray during soccer season and at San Benito High School sports games.
  - Perceived high number of auto collisions along Nash Road by residents.
  - Perceived low number of auto-pedestrian collisions along Nash Road.
  - Police enforcement and education of driver behavior is necessary as drivers consistently enter the crosswalks when pedestrians are present.[3]
- *Circulation:*
  - Potential extension of Westside Boulevard from Nash Road to San Benito Street, which would be a bypass around a full closure of Nash Road at San Benito High School.
  - Potential construction of a Class I bicycle path along the San Benito River, described in the 2009 San Benito County Bikeway and Pedestrian Master Plan and the 2005 San Benito County Regional Transportation Plan.
  - Drivers cut through to McCray Street using commercial parking lots.
  - Drivers cut through Ladd Lane to reach State Route 25 rather than waiting at the Tres Pinos Road intersection.
- *Parking:*
  - Limited parking available on Nash Road. It was made clear at the public workshops that the tradeoff for adding bike lanes would result in the loss of a few spaces, but public consensus was that increasing safety for students getting to school was a higher priority.
  - Desired consolidation of the perceived excessive number of driveways to commercial parking lots along Tres Pinos Road, which would improve pedestrian safety and visual appeal of the landscape.
  - Potential for shared parking plans between various commercial stakeholders along Tres Pinos Road.
- *Land use and right-of-way:*
  - Jurisdiction of Nash Road at San Benito High School is split between the City and County at the centerline of the road, with the south side being under County jurisdiction
  - Union Pacific right-of-way along McCray Street has been privately acquired and has potential use as shared use path, among other applications.
  - The City of Hollister prefers general use zoning at northern end of McCray Street.

3 TRANSPORTATION ANALYSIS

Building upon the Existing and Future Transportation Conditions described in Chapter 2, key street segments were analyzed in order to determine problems, potential areas for improvement, and any opportunities that might exist to improve safety, connectivity, accessibility, total capacity for movement, optimal flow, and the streetscape.

NASH ROAD

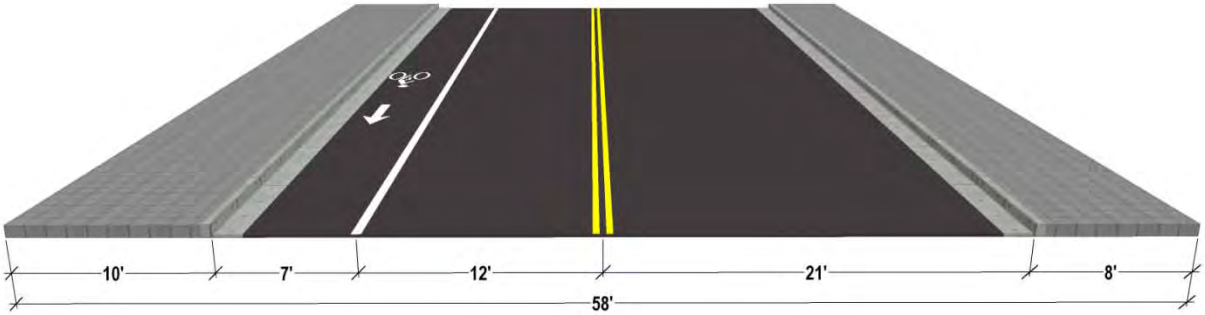
From Westside Boulevard to Cushman Street, Nash Road is an arterial road and truck route that provides access to unincorporated rural properties, agricultural uses, and a batch plant to the west, and residential neighborhoods and San Benito High School in south-central Hollister. It connects to State Route 25 on the eastern end (via Tres Pinos Road) and agricultural land uses to the west. Nash Road carries approximately 10,000-12,000 vehicles per day[7].

The street features two 12' travel lanes with 9' parallel parking in the westbound direction and a 7' dedicated Class II bicycle lane in the eastbound direction. From San Benito Street to Cushman Street, Nash Road transitions to two 13-14' lanes in each direction with an 11' center two-way left turn lane. This latter stretch also features 3' planted buffers on the sidewalks, separating pedestrians from traffic. These dimensions are an opportunity for improvement, as some of this space could be more optimally allocated to serve other users of the street and improve overall safety. Twelve-foot lanes or more are typical for high-speed arterial streets or freeways, and typical of current or former Caltrans facilities. However, in a slower-speed residential and school environment, 10' lanes are more appropriate (11' when higher bus or truck traffic volumes exist). Narrow streets have the effect of slowing traffic and encouraging drivers to be more attentive of other drivers, more vulnerable users (pedestrians and cyclists), and their environment.

Analysis of adjacent land uses suggests that Nash Road must maintain a functional balance between serving largely single-family homes on its north side and the San Benito High School campus that extends on both the north and south sides of the street. There is an exceptionally wide 40' marked pedestrian crossing on Nash Road at Monterey Street that allows students at the high school to cross throughout the day. However, this crossing is controlled by crossing guards before and after school as well as during major breaks, and automobile traffic can be stopped for minutes at a time due to high student volumes. Students are often overflowing from the sidewalks and crossing Nash Road outside of the marked crosswalk. This is a safety issue for students and the school. It also creates an access problem for nearby residents, as their driveways, travel times, and street noise levels are impacted by long vehicle queues at these crossing times.

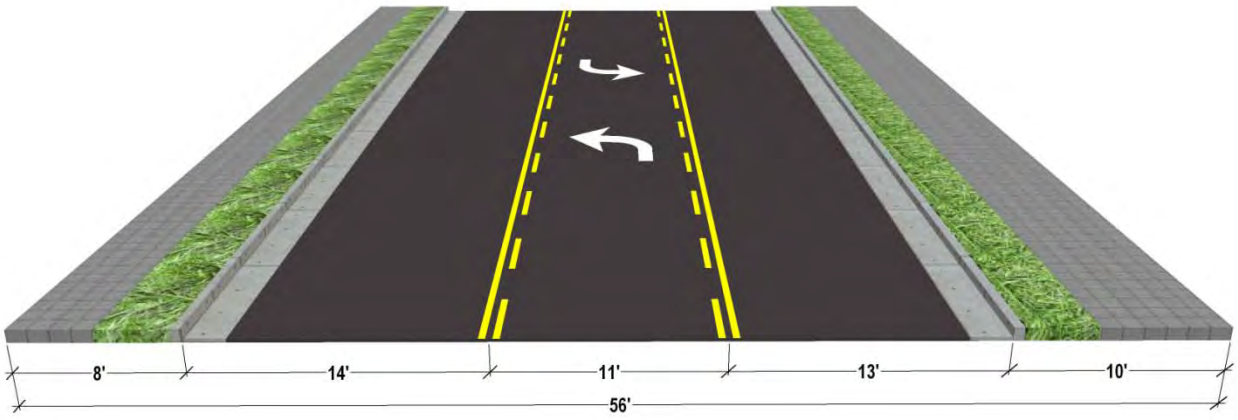
[7] Extrapolated from p.m. peak counts, Rajkovich Residential Development Draft Transportation Impact Analysis, 2013

Figure 3-1 Nash Road (Powell to San Benito), Existing



One travel lane in each direction, a bike lane in the eastbound direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

Figure 3-2 Nash Road (San Benito to Cushman) and Tres Pinos Road (Cushman to Rancho), Existing



One travel lane in each direction, with a center turn lane, landscaped buffers in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

San Benito High School

San Benito High School is the primary high school serving Hollister and surrounding areas of San Benito County, with a population of approximately 3,000 students and 250 faculty members as of the 2013-2014 school year. The campus is bisected by Nash Road between West and Monterey Streets, with a large marked pedestrian crossing for students. This crossing is managed by school-employed crossing guards, who direct the flow of both students during major crossing periods in the morning, lunchtime, and after school, as well as vehicles flowing through Nash Road. Due to the very high volume of students, they are often standing shoulder to shoulder when queuing to cross and overflowing from the curb at times. Likewise, during active student crossing, vehicles were observed queuing up to several blocks along Nash Road in both directions. As seen in Figure 3-3 and observed in the field, students cluster and cross throughout this block of Nash Road, outside of even the generous width of the marked crossing area.

The legal student drop-off location for San Benito High School is located in Baler Alley, just south of the campus. Illegal drop-offs occur at many locations in the surrounding area, including stop signs at side streets off of Monterey Street and the football field parking lot. Students are permitted to park at the B Street music room lot and San Benito Street extension to the football field. Students are not permitted to park on other streets surrounding the school, but do so anyways. California Highway Patrol patrolled the area to manage illegal parking at one time, but legal justification to do so has since diminished.

The high school administration has observed key safety issues and conflicts between students crossing and vehicles traveling through Nash Road. Mornings are busiest for student crossings. The crossing is considered dangerous by school officials and parents for evening events at the school, especially during winter when visibility and weather conditions are less than optimal. The school administration desires to close Nash Road to vehicles between West and Monterey Streets, and ideally transfer property to the school for a permanent pedestrian crossing or plaza. In addition, the school community would like to route bicycles south of the campus through an interim bypass to future Westside Boulevard southern extension due to perceived conflicts between riders and pedestrians on Nash Road. If a permanent closure is not feasible, the administration would like to consider the applicability of gates or other temporary closure devices for use during major crossing periods and events.

Figure 3-3 Pedestrian Activity at San Benito High School, Existing

Source: Google Maps, 2014

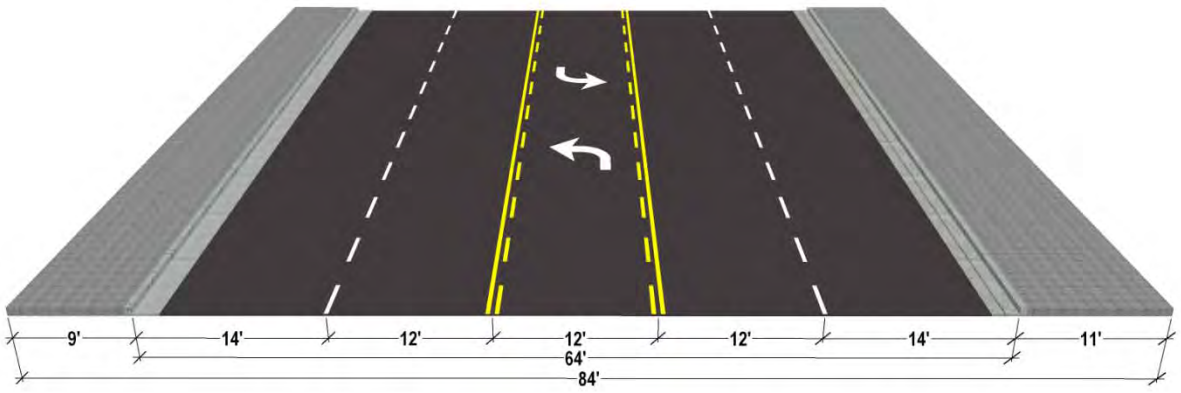
TRES PINOS ROAD

At Cushman Street, Nash Road ends and becomes Tres Pinos Road, extending to State Route 25. Tres Pinos Road has a varying right-of-way due to its multiple functions providing access to major commercial land uses and connecting to the highway.

Tres Pinos Road carries approximately 12,000-14,000 vehicles per day[8]. For most of its length it is a five-lane street with two travel lanes of varying widths in each direction and a center turn lane. This center turn lane becomes turn pockets for several commercial driveways throughout the corridor, and eventually transitions to a built median closer to its intersection with State Route 25. A typical cross-section is shown in Figure 3-5. In its current state, Tres Pinos Road has a strongly highway-oriented design, with few pedestrian crossing opportunities, wide travel lanes, and minimal landscaping. This leg of the corridor presents opportunities for traffic calming and beautification, which would transform its design to support the multimodal nature of its users and urban commercial context.

The majority of adjacent land uses are commercial in nature, with newly built development (Walgreens) and additional development or redevelopment anticipated in the area. There are a large number of commercial driveways to parking lots. Traffic flow into and out of these driveways is impacted by high traffic volumes, negatively encouraging drivers to use parking lots for turnaround maneuvers rather than risk crossing opposing traffic to make turns. These volumes also conflict with pedestrians, including students from nearby San Benito High School, who frequently cross the street and parking lots to access food areas and meet with friends.

Figure 3-4 Tres Pinos Road (Rancho to Ladd), Existing



Two travel lanes in each direction, with a median turn lane, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

Rancho San Justo Middle School

Rancho San Justo Middle School is located along Rancho Drive north of its intersection with Nash/Tres Pinos Road. The school administration expressed its desire for crossing improvements on Ranch Drive,

[8] Extrapolated from p.m. peak counts, Rajkovich Residential Development Draft Transportation Impact Analysis, 2013

for example flashing beacons. Early models of in-pavement flashing beacons have had reliability issues, but the City of Hollister Public Works Department are currently testing a new and improved design that may be an option if they prove to be reliable. Another possibility is rectangular rapid-flash beacons – these are typically solar-powered self-contained units that are easy to install on either side of the crosswalk and have proven to be effective in improving motorist yield rates, particularly at night.

Walking Routes to the School

While Rancho Drive is outside the study area, our conceptual design has taken into consideration the large numbers of students who walk to school from residential neighborhoods south of Nash Road. The main challenge is for students to cross the street at Cushman Street and Rancho Drive. At Cushman Street the concepts envision moving the crosswalk to the west side of the intersection to allow the addition of a small median refuge island, which makes crossing easier by letting pedestrians deal with traffic from each direction separately rather than finding a gap big enough to cross the entire street in one go. At Rancho Drive the addition of a roundabout includes splitter islands that also act as median refuge islands for pedestrians. In addition, the roundabout is designed to slow vehicles to about 15 mph as they enter the roundabout and begin to mix with oncoming traffic, which makes it easier for drivers to see and yield to pedestrians.

Figure 3-5 Rectangular Rapid Flashing Beacon, Example Installation

Source: Federal Highway Administration

Pick-up and Drop-off Staging

One of the issues raised by both school authorities and residents is that parents tend to drop-off and pick-up on Rancho Drive and East Park Street, in an attempt to drop their children as close to the school entrance as possible. During the morning drop-off and afternoon pick-up periods the street becomes chaotic with cars pulling in and out, while children that walk to school are trying to cross the street.

The City and the School District would like to address the situation by providing a designated area for drop-off/pick-up in the parking lot on the east side of the school playing fields, adjacent to McCray Street. A southern access point to the drop-off zone would be added with a connection to a new roundabout.

We recommend designating a number of spaces as no parking during these times on school days. Parents would then be instructed to queue in the parking aisle before pulling along the curb to drop off their children. One method of publicizing the new facility could be to send flyers home with children to describe to parents on how the system is intended to work.

The number of spaces necessary to create the drop-off zone should be established at the design stage. The parking lot is large enough in relation to weekday parking demand that a reasonable drop-off zone can be created without affecting parking availability. Meetings should be held with the school to determine the exact layout of the drop zone. If school administration and city staff felt that signage alone was not enough to mark the zone, the pavement could be marked with a color. Green is used in California for marking the curb for short-term parking spaces, and this usage would be similar.

STATE ROUTE 25 BYPASS (AIRLINE HIGHWAY)

State Route 25 and Tres Pinos Road form the largest intersection in our study area. As of 2012, the highway carries 22,000 vehicles per day north of this intersection, and 9,500 vehicles per day south of it[9]. The intersection features a 128-second signal cycle. This location is of particular interest in this study due its highly urban context and function as a major regional connection, presenting several design opportunities to better balance multimodal flow and safety.

The urban context lends itself to pedestrian and bicycle trips, but cyclists and pedestrians must then cross up to 9 lanes of traffic. Pedestrians were observed waiting up to 120 seconds to cross, after which there is up to 8 seconds to begin crossing. Shortening crossing distances is one way to expose pedestrians to fewer lanes of conflicting traffic movements while reducing the time needed to complete the crossing.

The highway-oriented design of both State Route 25 and Tres Pinos Road lends right-turning traffic to be traveling at higher speeds when exiting the highway and paying more attention to traffic gaps and speed differential when entering it, when compared to conventional urban intersections. This reduces the amount of time a driver can become aware of pedestrians or cyclists that are about to cross or already in the crosswalk at these corners. One solution that also shortens crossing distances is the implementation of right-turn channelizing islands (also known as “pork chops”) that provide a refuge for pedestrians past right-turning traffic. Certain geometric alignments for channelizing islands can orient drivers to see pedestrians first prior to making their turn, rather than after the turning movement begins (as in standard islands).

[9] “2012 Traffic Volumes on the California State Highway System: Routes 22-33”, Caltrans Traffic and Vehicle Data Systems Unit, accessed June 26, 2014, http://traffic-counts.dot.ca.gov/2012all/Route22-33.html

Figure 3-6 Tres Pinos Road and State Route 25 (Airline Highway), Existing

Source: Google Maps, 2014

SUNNYSLOPE ROAD

Sunnyslope Road is the easternmost leg of the study area, extending from Tres Pinos Road at State Route 25 to its intersection with Memorial Drive, which is also the location of Sunnyslope Elementary School. Similar to Nash and Tres Pinos Roads, Sunnyslope Road continues to function as an arterial road, connecting to southeast Hollister, with a largely residential context and light commercial land uses immediately adjacent to State Route 25.

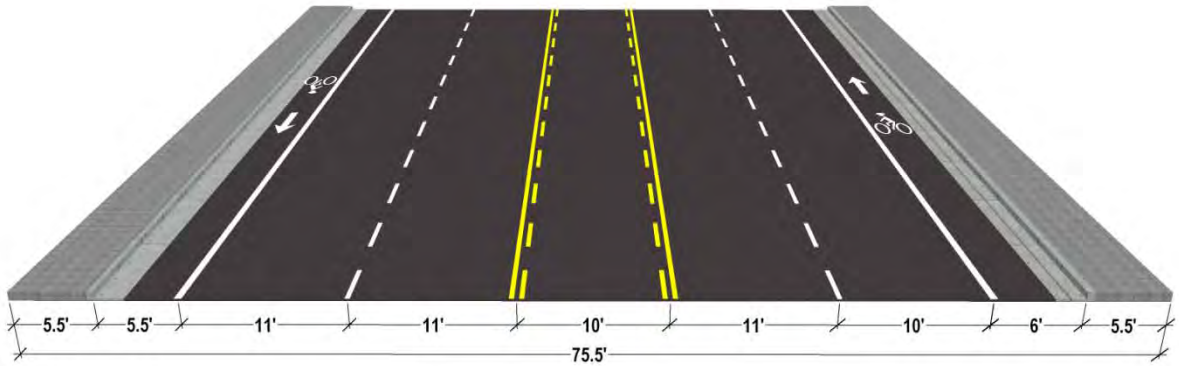
This section of the corridor carries approximately 14,000 vehicles per day[10]. It is largely consistent in design, with two 10 to 11 feet travel lanes in each direction, a center turning lane, 5 to 6 feet Class II dedicated bicycle lanes on both sides, and 5.5 feet sidewalks. Just east of Memorial Drive, Sunnyslope Road drops these bicycle lanes and features slightly narrower sidewalks with a gravel buffer on either side. With low truck volumes in this mostly residential area, there are opportunities for calming traffic through narrowing lanes to 10' and improving the bicycle lanes to be wider. Sunnyslope Road could also benefit from beautification strategies, such as landscaped medians, street trees, and grassy buffers throughout the corridor.

Contextual land uses for Sunnyslope Road include largely single- and multi-family residential land uses, with light commercial areas immediately adjacent to State Route 25. There are currently undeveloped parcels to the south of Sunnyslope around Black Forest Drive, which are potentially slated for new mixed-use residential development. Part of this development would likely include new roadway connecting both

[10] City of Hollister Engineering Department, 2006 (most recent data available for this section).

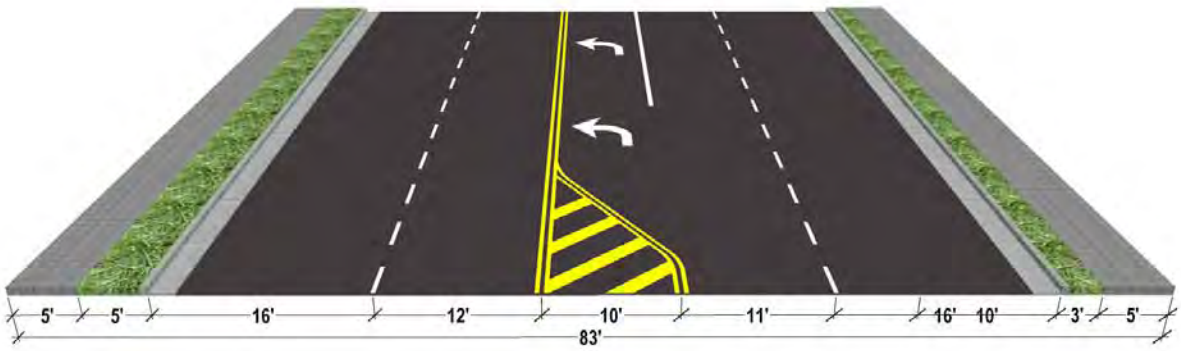
ends of Black Forest Drive north and south of Sunnyslope Road. Development projects in this area are a potential funding source for a variety of transportation improvements in the surrounding area.

Figure 3-7 Sunnyslope Road (Airline Hwy to Memorial Dr), Existing



Two travel lanes in each direction, with a median turn lane, bike lanes in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard 2014

Figure 3-8 Sunnyslope Road (Memorial Dr to El Toro), Existing



Two travel lanes in each direction, one protected left turn in the westbound direction, landscaped buffers in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

Sunnyslope Elementary School

There is currently very limited traffic calming implemented at Sunnyslope Elementary School. While speed measurements were not conducted as a part of this study, high vehicle speeds were observed during a field visit by the consulting team. Drop-off and pick-up are currently routed through the school parking lot, but also occurs in private lots across Memorial Drive due to lengthy queuing and limited available space on school property. Queues from the school driveway entrance tend to back up on Memorial Drive and at peak times also cause queues to form in the left turn lane on Sunnyslope Road eastbound.

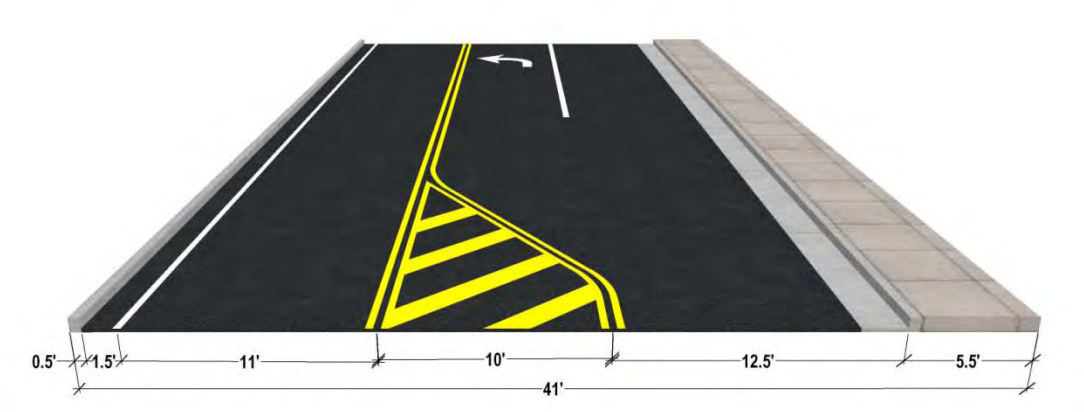
MCCRAY STREET

From Tres Pinos Road to South Street/Hillcrest Road, McCray Street was the downtown bypass for through traffic before the Highway 25 bypass was constructed. The street was classified as a major collector in the 2005 General Plan, and in 2006 it carried approximately 16,000 vehicles per day. Its role has since changed and it carries limited traffic volumes today. McCray Street runs parallel to Prospect Avenue between South Street and Gibson Drive, only 100-300 feet apart. At the southern end, Prospect Avenue becomes a large parking lot for the Rancho San Justo Sports Facility on the west side of McCray Street and Prospect Avenue.

Most of McCray Street is built as a rural highway, with discontinuous sidewalks often on one side of the road, limited to no on-street parking, and no dedicated bicycle facilities. There are two 11 to 12.5 feet travel lanes in each direction between its southern terminus and South Street. McCray Street expands to five travel lanes north of South Street, though pedestrian and bicycle facilities are still limited.

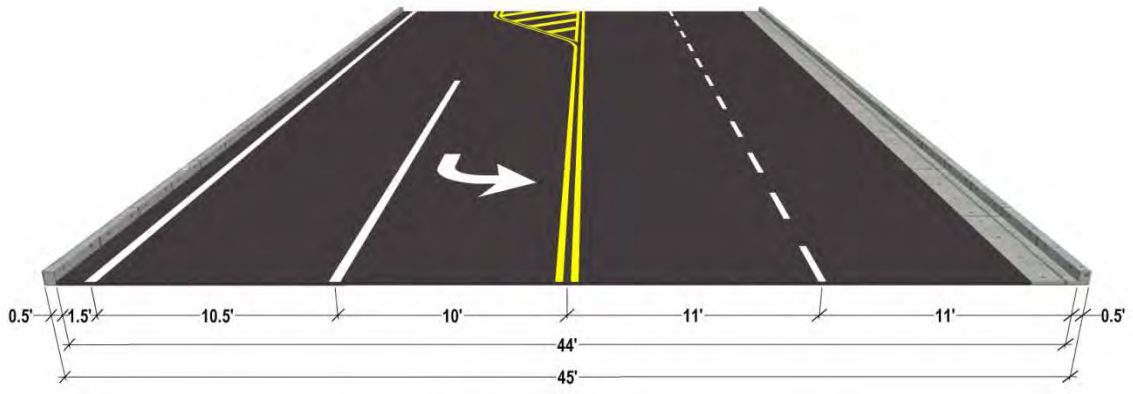
At the southern end, McCray Street terminates to the rear of the commercial development that fronts onto Tres Pinos Road. Access it possible through the shopping center car park, but is not encouraged. The southern section has the Rancho San Justo Sports Facility and a small residential development off Gibson Drive on the west side, and two large undeveloped parcels on the east side that the City just annexed from San Benito County. North of East Park Street on the west side there is a mix of residential development and light industrial uses, while on the east side there is a large property slated for redevelopment stretching up to the corner of McCray Street and Hillcrest Road.

Figure 3-9 McCray Street (north of Park), Existing



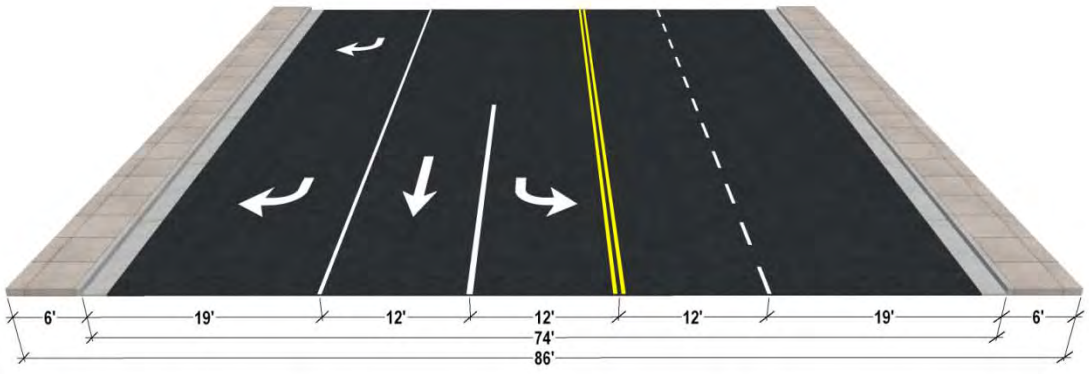
One travel lane in each direction, with a protected left turn in the westbound direction, and a sidewalk in one direction.
Source: Nelson\Nygaard, 2014

Figure 3-10 McCray Street (north of Hawkins), Existing



Two travel lanes in the westbound direction, one travel lane in the eastbound direction, and one protected left turn in the eastbound direction.
Source: Nelson\Nygaard, 2014

Figure 3-11 McCray Street (north of South), Existing



Two travel lanes in the westbound direction, one travel lane, one protected left, and one protected right turn lane in the eastbound direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

4 COMPLETE STREETS RECOMMENDATIONS

Based on the analysis in Chapter 3, a number of Complete Streets policy, street design and traffic engineering elements have been identified that could be used in Hollister to improve safety, comfort, circulation, and convenience for all users of the street, as well as provide opportunities for beautification.

COMPLETE STREETS POLICY RECOMMENDATIONS

A Complete Streets policy ensures that the entire right of way is planned, designed and operated with all users in mind. It provides for pedestrians, bicyclists, transit, motorists, and travelers of all ages and abilities.

Complete Streets policies and legislation have been adopted in recent years at the national, state and regional levels. The 2008 California Complete Streets Act (AB 1358) requires as of 2011 that any substantial revision of general plan circulation elements provide for "a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel..." Users are defined as "bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors."

The U.S. Department of Transportation Policy Statement on Bicycle and Pedestrian Transportation Accommodations Regulations and Recommendations supports "fully integrated active transportation networks" that include accommodations for bicyclists and pedestrians. The USDOT encourages transportation agencies and local governments to adopt similar policies to ensure all users of streets, roads, and highways are taken into consideration when developing new or retrofitting existing transportation systems. The Policy Statement can be found at *http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm*.

The California Department of Transportation Deputy Directive 64-Revision #1: 'Complete Streets: Integrating the Transportation System' (DD-64-R1) was issued in 2008, directing the agency to support increased mobility and access for all users on Caltrans roads. Though the Directive is limited to Caltrans facilities, the goals provide important guidance for the design of city and county streets. Caltrans also became one of 46 agencies, cities, counties, and states to endorse or adopt the NACTO Urban Street Design Guidelines, which promote a more balanced approach to street design and provides more direct guidance on implementing Complete Streets policies.

Caltrans' Complete Streets Implementation Action Plan and other information on Caltrans' complete street policies can be found at *http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets.html.*

The Monterey Bay Area Complete Streets Guidebook contains sample policies and engineering best practices that can be adopted by the City of Hollister to ensure that roadways function well for all users, comply with California Complete Streets Legislation (described above), and contribute to reduced vehicle miles traveled and regional greenhouse gas reduction targets pursuant to California law (SB 375).

The Council of San Benito County Governments approved the guidebook for inclusion in the 2014 Regional Transportation Plan, which is being updated at the time of this writing. The document provides guidance on planning and implementation procedures for project sponsors, cities and the County when developing streets in the region.

Various complete street types are identified and defined, along with sample cross-sections, associated land uses and suggested roadway user prioritization. The complete street types provide design

recommendations for various roadway arrangements. The guidebook also includes a complete streets project review and design checklist that can be used in planning and public works departments to identify opportunities for complete streets and document constraints or exemptions. The guidebook is available at *http://www.sanbenitocog.org/files/final-2013-complete-streets-guidebook.pdf*.

Additional complete streets educational information, model policy language and other resources are available at *http://www.smartgrowthamerica.org/complete-streets* and *http://nacto.org/usdg/*.

A list of jurisdictions with complete streets policies is included in the Appendix of this document.

COMPLETE STREETS INFRASTRUCTURE

Segments

Complete streets are designed and operated to enable safe and high quality access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. There is no single definition or set of design guidelines for complete street segments because complete streets are intended to respond to unique needs and demands in the context of a given community. In order to achieve these goals, a myriad of physical enhancements may be employed in the design of complete street segments:[11]

- Sidewalk improvements
- Bike lanes
- Dedicated bus lanes
- Comfortable and accessible transit stops
- Frequent and safe crossing opportunities for pedestrians and bicyclists
- Median islands
- Curb extensions
- Narrower travel lanes
- Landscaping and street furniture

Traffic Calming

Traffic calming involves the deployment of physical measures to reduce vehicle speeds or traffic flows in an effort to alter driver behavior to improve street safety and livability for non-motorized users. Goals of traffic calming include:[12]

- Increasing quality of life;
- Incorporating the preferences and requirements for those working, playing, and residing along the street to improve safety and attractiveness in the context of the respective area;
- Helping to mitigate the negative effects of motorized vehicles such as pollution, noise, and sprawl;
- Promotion of walking, bicycling, and the use of transit.

[11] "National Complete Streets Coalition," Smart Growth America, accessed June 26, 2014, http://www.smartgrowthamerica.org/complete-streets/complete-streets-fundamentals

[12] "Traffic Calming," Institute of Transportation Engineers:, accessed June 26, 2014, http://www.ite.org/traffic/index.asp

Intersections

Intersections are key points of activity and potential conflict for pedestrians, bicyclists, and motorists. Factors which influence bike and pedestrian safety and quality at intersections include street width, geometry, signal timing, and crossing frequency. Good intersections that improve both safety and ease of use for all users provide a number of benefits:[13]

- *Encourage walking*, by creating a safe and inviting pedestrian realm.
- *Minimize conflict*, by decreasing pedestrian crossing distance, time and exposure to potential conflicts.
- *Increase visibly*, by incorporating design elements that alert drivers that they are approaching a location where they may encounter crossing pedestrians and bicyclists.
- *Slow traffic*, allowing drivers more reaction time and decreasing the severity of collisions when they do occur.

Roundabouts

Roundabouts are an alternative to traditional signalized or stop-controlled intersections that offer a number of advantages:

- *Reduced delay for all users*. Because there are no signals or stop signs, both vehicles and pedestrians are not required to stop before proceeding through the intersection (although they are required to yield). All vehicles move smoothly but slowly through the intersection, reducing traffic congestion and vehicular emissions.
- *Improved safety*. Roundabouts are designed to ensure that traffic moves slowly through intersections, that both sightlines and directions are clear, and that potential conflicts between vehicles and pedestrians are minimized. As a result, studies have repeatedly found that when signalized and two-way stop controlled intersections are converted into roundabouts, both the frequency and severity of collisions are reduced.
- *Opportunities for beautification and "placemaking."* The center of a typical roundabout has an open space that can be used for landscaping, sculpture or signage, such as welcome signs. As they approach roundabouts, motorists must also slow down and pay attention. For this reason, roundabouts can serve as "gateways" to a city or neighborhood.

Roundabouts often also include "truck aprons" or slightly raised areas between the central island and the traffic lanes, allowing circulation by trucks and emergency vehicles, while ensuring that passenger vehicles can't go through at high speeds. Roundabouts can accommodate relatively high volumes of traffic, because although they are designed to slow vehicles down, traffic is rarely brought to a full stop like at a signal.

There are some disadvantages to roundabouts. Crosswalks must be set back from the intersection, making pedestrian paths less direct. A roundabout may require more at the intersection space than a traffic signal, but typically requires less space on the approach to the intersection. Bicycle lanes cannot continue through a roundabout, requiring cyclists to merge with traffic or travel around like pedestrians.

[13] "Intersection Design," SF Better Streets, accessed June 26, 2014, http://www.sfbetterstreets.org/design-guidelines/intersection-design/

Roundabouts near School Areas

The function and safety of roundabouts in school areas is particularly important for this study in Hollister, given the significant presence of students from San Benito High School, Rancho San Justo Middle School, and Sunnyslope Elementary School.

There are several precedents for roundabouts demonstrating high pedestrian safety along with marked traffic improvements. The Kansas Department of Transportation and Kansas State University collaborated on a 2008 study for pedestrian safety and accessibility at a roundabout near a grade school in Lawrence, Kansas. This study found that drivers were "extremely cautious" and displayed "exemplary" behavior around children crossing the roundabout legs.[14]

Figure 4-1 Roundabouts near Schools

A school in Brown County, WI, with roundabouts at both ends of the school property.
Source: FHWA, 2009

"De facto" Left-Turn Lanes

A "de facto" left-turn lane is a street design technique for roads with single lanes in each direction, widening a lane as it approaches an intersection (taking away space from painted buffers for bicycle lanes for a stretch of 30 to 50 feet). This widening allows vehicles to safely wait to make a left turn on a permitted green signal without delaying vehicles behind them heading straight. This design feature is depicted in Figure 4-2.

[14] A Study of the Effect of ADA Accessibility on Kansas Roundabouts, accessed June 26, 2014, http://ntl.bts.gov/lib/30000/30900/30931/KSU-05-4_FinalReport.pdf

Figure 4-2 "De Facto" Left Turn Lane Design

Source: Nelson\Nygaard, 2014

Leading Pedestrian Interval

A leading pedestrian interval (LPI) signals pedestrians to cross three to seven seconds before a corresponding green light signal in the same direction to give pedestrians a head start on vehicular traffic when entering an intersection. LPIs enhance the visibility of pedestrians crossing at intersections and reinforce their right-of-way over turning vehicles. LPIs have been shown to reduce pedestrian-vehicle collisions by as much as 60% at treated intersections.[15]

Bicycle Facilities

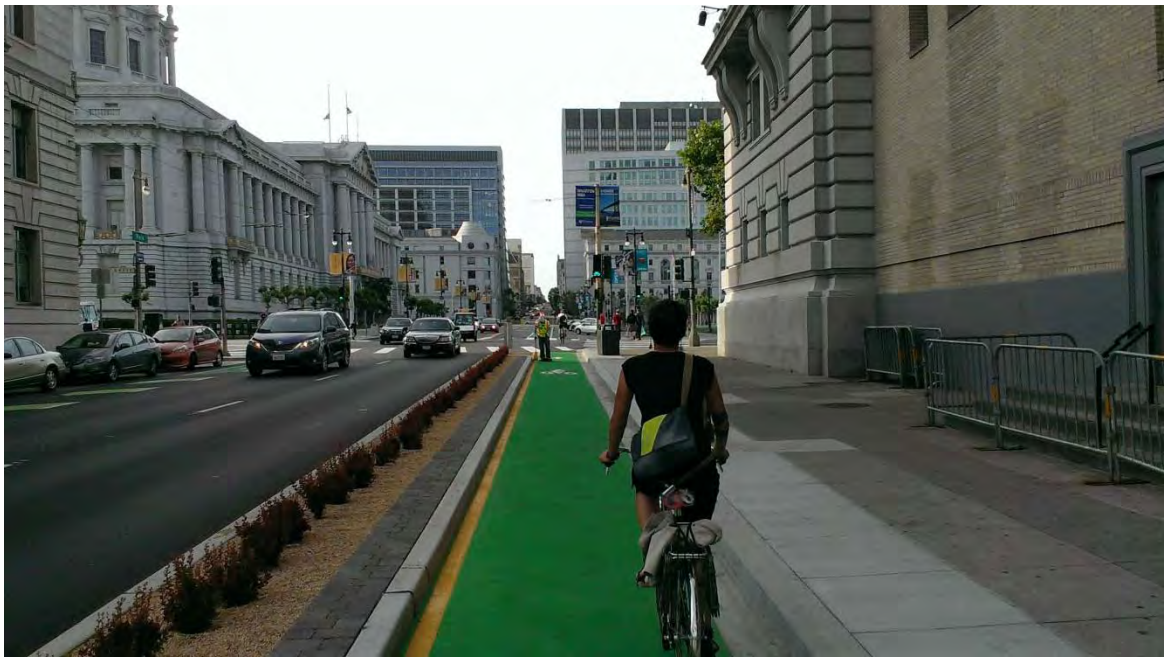
Bicycle facilities should incorporate physical design elements that create a safe and enjoyable environment for bicyclists of all abilities by heightening visibility, establishing a clear right-of-way, and facilitating eye contact and awareness with competing modes. The types of bike facilities implemented in complete streets design should be determined given the context of the area, recognized points of conflict, and level of vehicular traffic. Potential bicycle facilities which can be utilized in complete street design include:[16]

- Conventional bike lanes
- Buffered bike lanes
- Contra-flow bike lanes

[15] "Leading Pedestrian Interval," NACTO Urban Street Design Guide, accessed June 26, 2014, http://nacto.org/usdg/intersection-design-elements/traffic-signals/leading-pedestrian-interval/

[16] NACTO Urban Bikeway Design Guide, accessed June 26, 2014, http://nacto.org/cities-for-cycling/design-guide/

- Cycle tracks
- Bike boxes
- Bicycle actuated signaling



Buffered bicycle facilities in San Francisco, CA provide safety and comfort for cyclists, and improve visibility between cyclists and drivers.
Source: Nelson\Nygaard, 2014

Pedestrian Facilities

Successful design and implementation of complete streets provide pedestrians with sidewalks that exceed prevailing design guidelines, which recommend a minimum sidewalk width of 5 feet. Sidewalk standards should accommodate higher than anticipated pedestrian volumes and provide ample space in the frontage and curb zones for the location of amenities, signage, street furniture, and utilities without obstructing pedestrian through traffic.[17]

[17] "Sidewalks," NACTO Urban Street Design Guide, accessed June 26, 2014, http://nacto.org/usdg/street-design-elements/sidewalks/

A wide sidewalk provides ample room for pedestrians, street furniture, and landscaping which creates a comfortable, shady environment.
Source: Nelson\Nygaard, 2014

Curb Extensions

Curb extensions, also called sidewalk bulb-outs or simply bulbs, improve pedestrian safety in several ways. Most importantly, crossing distance is reduced, along with the time it takes to cross the street, which reduces pedestrian exposure and makes it easier to cross. At signalized intersections, shorter crossing distance reduces the risk that pedestrians will be "stranded" in the street when the light changes. By reducing the width of the street, curb extensions also discourage speeding, and they improve sightlines for motorists, increasing the visibility of pedestrians. Curb extensions can also benefit motorists by reducing the length of time necessary for a walk signal and accompanying red light.

Curb extensions can be somewhat expensive to construct if they impact utilities or drainage. However, existing drainage can be retained using pipes in place of gutters, and drains can be avoided by constructing bulbs as "islands" built to the edge of the gutter, sometimes connected to the existing curb by plates. In both cases, additional maintenance may be required.

Curb extensions in Washington, D.C. allow for short crossing distances and times for pedestrians.
Source: Nelson\Nygaard, 2013

High Visibility Crosswalks

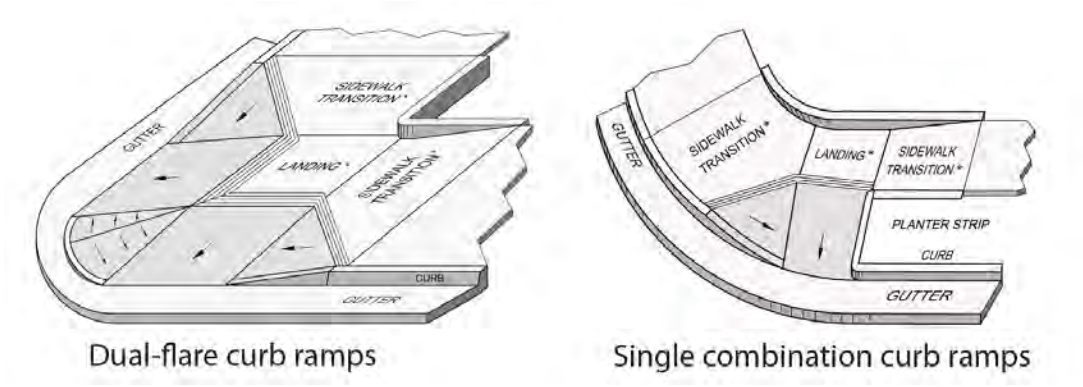
Pedestrian safety can be improved by making crosswalks more visible to motorists. The traditional parallel stripe crosswalk can be hard for motorists to see from a distance, especially as the paint is worn, so motorists approaching are often unaware that they may need to stop. High visibility crosswalks are easier to see from a distance. When they are placed with the stripes outside the path of tire travel the paint tends to last longer than conventional crosswalks.

Mid-block continental crosswalks provide visibility at Davis Square in Somerville, MA.
Source: Nelson\Nygaard, 2014

Curb Ramps

Curb ramps improve access for the elderly, people with disabilities and families with strollers. Most newer areas in Hollister have curb ramps, but some older areas do not have curb ramps or feature designs with very steep ramps. Many of the existing sidewalks are too narrow for conventional ramp designs, but newer designs can fit in small spaces.

Figure 4-3 Innovative and Space-saving Curb Ramp Designs



Source: Curb Ramp Elements and Standards, City of Sacramento, 2007

Trees, Lighting and Other Streetscape Elements

Trees

Coordinated roadway improvements provide an opportunity to create a unified system of landscaping and signage along the corridor. Indigenous plantings and drought tolerant landscaping would provide added aesthetic beauty while communicating a strong community preference for ecological sensitivity. Adding tree wells between the curb and sidewalk where space allows, and converting under-used paved areas to green spaces will provide an opportunity to plant street trees and complimentary landscaping along the corridor.

Trees planted in the furniture zone between the curb and sidewalk add a vertical buffer between moving vehicles and pedestrians. When located near the street edge, they provide visual interest and enclosure that heightens motorist recognition of speed and encourages caution. They also provide shade and cover for pedestrians, absorb air pollutants, capture rainfall and facilitate rainfall percolation into the ground, which reduces flooding. Studies have shown trees to have a positive impact on sales in business districts, crime reduction in low income neighborhoods, and increased residential property values.

Trees can be located in planters, crushed granite in tree wells or grates in the furniture zone on sidewalks that do not include continuous planting strips.

Trees on each side enclose the street, encouraging lower speeds while also providing shade and environmental benefits.
Source: Nelson\Nygaard, 2014

Lighting

Motor-vehicle scale street lights tend to focus light on travel lanes and intersections. Pedestrian-scale street lights direct light onto walkways. Lampposts should be spaced more frequently at lower heights, providing a vertical buffer between the street and sidewalk. They help activate streets, paths, and other public spaces by adding illumination at the pedestrian level. Safety, comfort, and security are improved through increased visibility.

Pedestrian-scale street lights should be considered for installation in high pedestrian activity areas, especially in commercial districts where nighttime retail, restaurant and entertainment services are encouraged, in areas with a history of high crime rates, or around schools. Criteria for pedestrian-scale lighting include:

- Lampposts are a maximum 10 to 16 feet in height.
- Designs need to withstand vandalism.
- Consistent design and materials throughout the corridor.
- Light fixtures direct light where it is intended. Consider using partial or total cut-off fixtures (covers or hoods) to reduce glare, light trespass, and help preserve a dark night sky.
- Choose appropriate lamp type for the location that balances illumination level, color rendering, energy efficiency, reliability and cost.

The lamposts pictured are height appropriate, allowing for direct light to a pedestrian walkway.
Source: Nelson\Nygaard, 2013

Streetscape

The pedestrian zone of the streetscape is designed to be visually inviting and comfortable, creating a setting predominantly free of conflicts with vehicular traffic. Ideas for simple improvements to street frontage can include pedestrian-oriented signage and upgrades to building facades (including as simple as the addition of coordinated canvas awnings and light fixtures). This will not only improve the pedestrian experience, but will enhance the retail tenant's environment and attract business.

Streetlights, landscaping, signs, bicycle racks and other furnishings can be placed in the buffer zone where they can serve pedestrians without obstructing the walkway, and provide additional framing and enclosure to both the street and the walking environment.

Green street features such as bioswales and storm water capture infrastructure provide environmental and aesthetic benefits to the streetscape as well. Bioswales are designed to capture, cleanse, and filter storm water runoff. Storm water runoff recharges the groundwater table as well. These green street features can be placed in medians, curbs, buffer zones, and other public spaces.

Green street features in Portland, OR feature bioswales in the curb extensions, adjacent the pedestrian walkway.
Source: Nelson\Nygaard, 2014

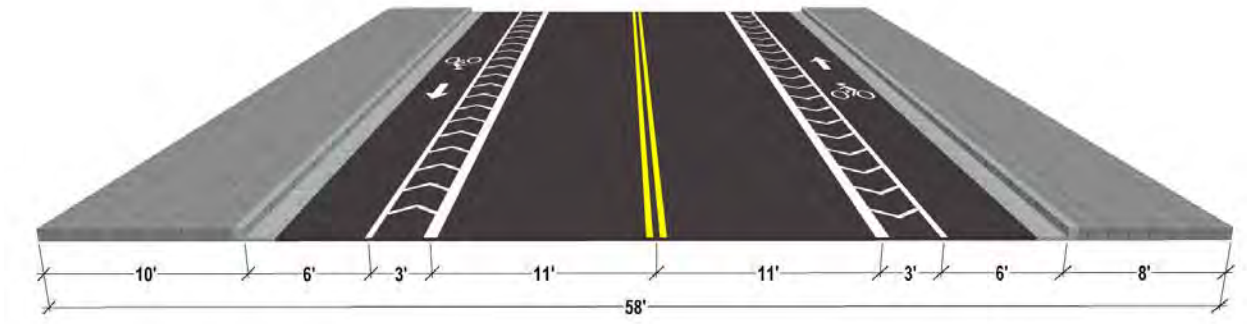
NASH ROAD

Segment Improvements

Analysis shows that traffic volumes can be adequately accommodated throughout Nash Road with two travel lanes and left turn pockets. Removing the center turn lane and narrowing the lanes to 11 feet makes room to add buffered bicycle lanes on both sides of the road. With a single lane in each direction, speeding will be reduced.

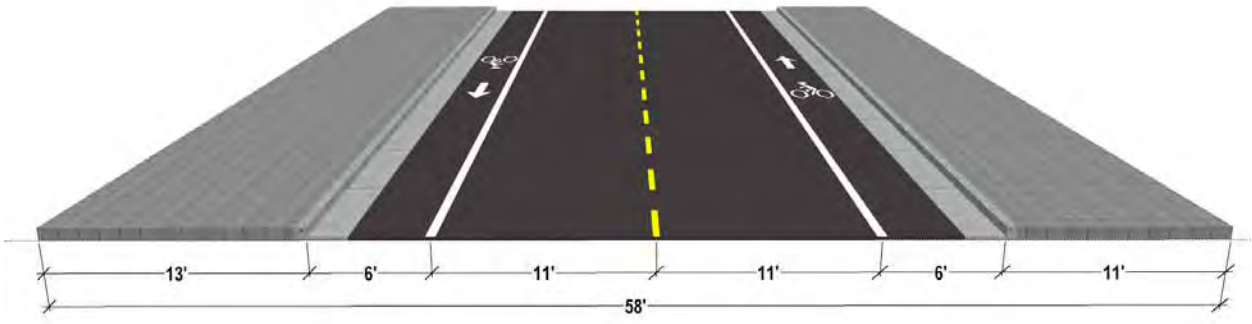
From Powell Street to San Benito Street, the short-term improvement is a paint restriping. A mid-term solution would be extending the curbs and widening the sidewalk by 3 feet on either end, in order to accommodate the significant student volumes at San Benito High School and provide more space to neighboring residents when walking. The recommended long-term solution includes raising the street up to sidewalk level for the half-block west of Monterey Street and matching the paving material to the sidewalk to emphasize pedestrian priority, with the option of automatic bollards permitting the block to be closed to vehicles as described further below.

Figure 4-4 Nash Road (Powell to San Benito), Short-Term Improvement



One travel lane in each direction, buffered bike lanes in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

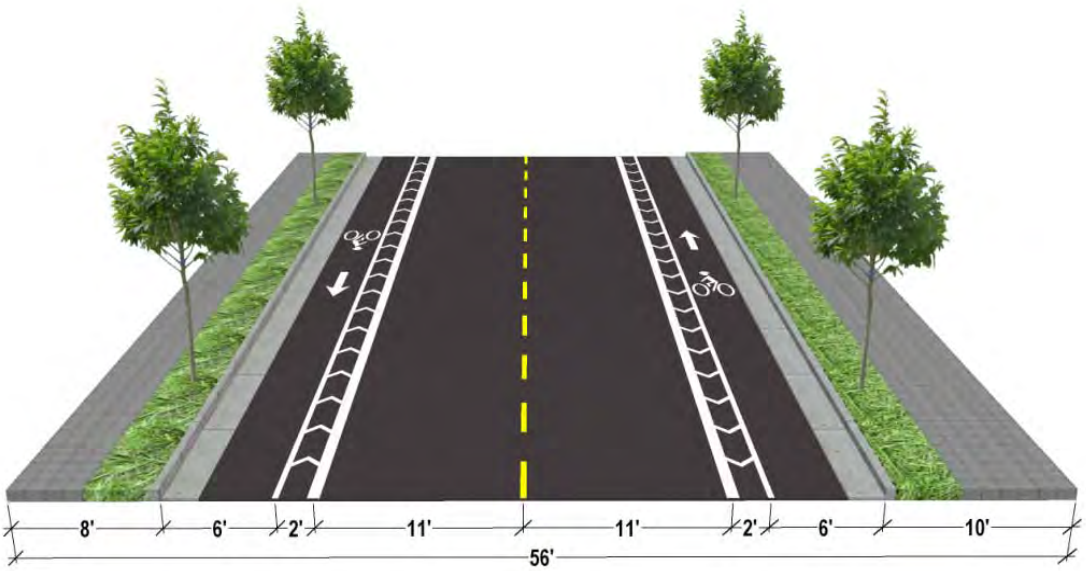
Figure 4-5 Nash Road (Powell to San Benito), Mid-Term Improvement



One travel lane in each direction, bike lanes in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

From San Benito Street to Rancho Drive, the recommended long-term improvement for Nash Road is restriping, reallocating roadway space from two wide travel lanes and a center turn lane to two narrowed travel lanes and buffered bike lanes in both directions. Recognizing that Nash Road is a truck route, 11' lanes are suggested. This treatment creates dedicated Class II lanes for cyclists and helps calm and separate traffic from both cyclists and pedestrians, while adequately maintaining vehicle volumes and flow. In place of the center turn lane, de facto left turn lanes are incorporated to ease access to the neighborhoods on either side of Nash Road (see Figure 4-2).

Figure 4-6 Nash Road (San Benito to Rancho), Long-Term Improvement



One travel lane in each direction, buffered bike lanes in each direction, landscaped buffers in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

San Benito High School

Several alternatives were considered to address safety and circulation concerns for students and traffic flow along Nash Road at San Benito High School. These included solutions ranging from no change to partial, temporary closures, to a full roadway closure. The preferred alternative is a shared space concept that operates as a partial, temporary closure during crossing periods and major events.

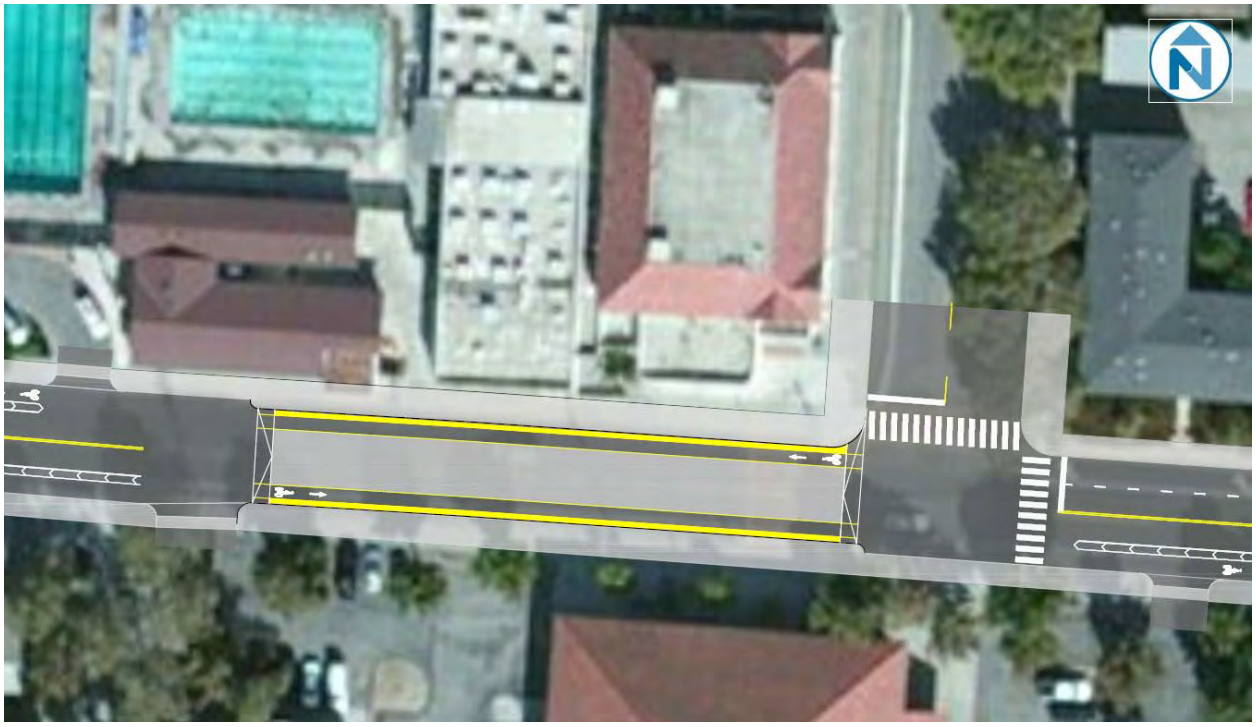
This shared space concept is depicted in the 3-D model shown in Figure 4-8 and Figure 4-9, along with a plan view shown in Figure 4-7. On Nash Road, approximately half of the block between West Street and Monterey Street would transform into a raised and textured shared space. Access to the space by automobiles would be regulated by movable bollards that can be raised and lowered manually as necessary. Pedestrian and bicycle access would be available at all times. The space is bounded on all four sides by a raised, bumpy yellow strip that helps caution visually impaired pedestrians crossing in and out. Bicycle lanes are maintained through the space in the form of darkly colored tiles.

These visual changes and vertical deflection of automobile traffic when the space is open leads drivers to slow their speeds and be more wary of pedestrians and cyclists in the area. Closure of the space during major crossing periods would provide more accessibility for the throngs of students crossing the road, and signal advance warning to drivers that this crossing will be slow.

Another potential consideration for San Benito High School is the creation of a bypass route for vehicles at the southern portion of campus. A full street closure at this point without a bypass would lead to greater traffic throughout the surrounding residential neighborhood and close the south-central truck route, an undesirable effect. Several bypass concepts are being considered by the City of Hollister and San

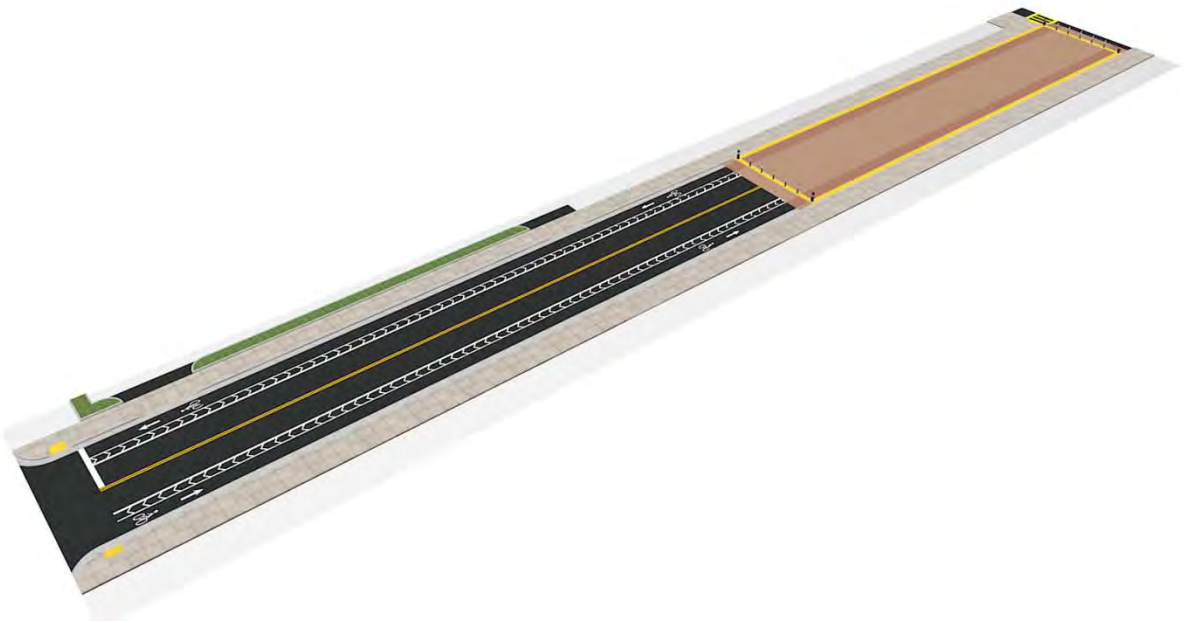
Benito Council of Governments at this time, including an interim bypass (shown in Figure 4-10) and an extension of Westside Boulevard to San Benito Street south of the school.

Figure 4-7 Nash Road at Monterey Street (San Benito High School), Long-Term Improvement



Raised speed table with bollards for temporary closures at San Benito High School, plan view.
Source: Nelson\Nygaard, 2014

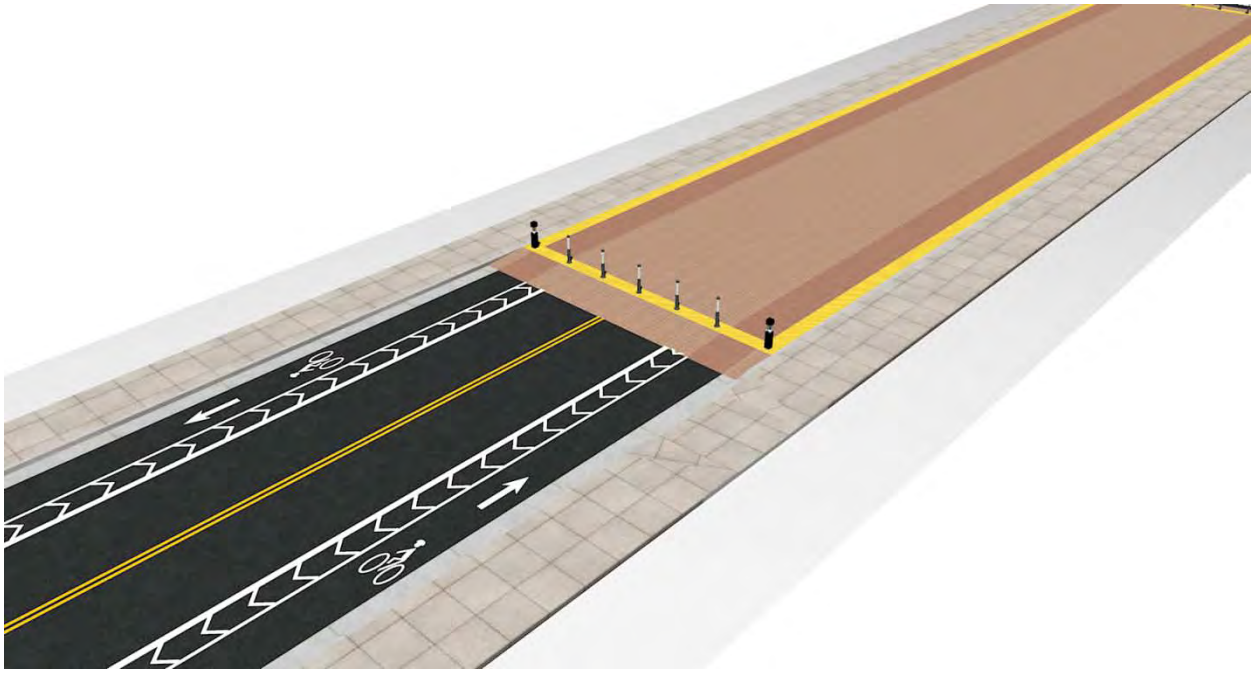
Figure 4-8 Nash Road at San Benito High School, Long-Term Improvement



Raised speed table with bollards for temporary closures at San Benito High School, bird's eye perspective.

Source: Nelson\Nygaard, 2014

Figure 4-9 Nash Road at San Benito High School, Long-Term Improvement (Zoomed)



Raised speed table with bollards for temporary closures at San Benito High School, zoomed bird's eye perspective.
Source: Nelson\Nygaard, 2014

Figure 4-10 Temporary Bypass of Nash Road and Westside Boulevard Extension

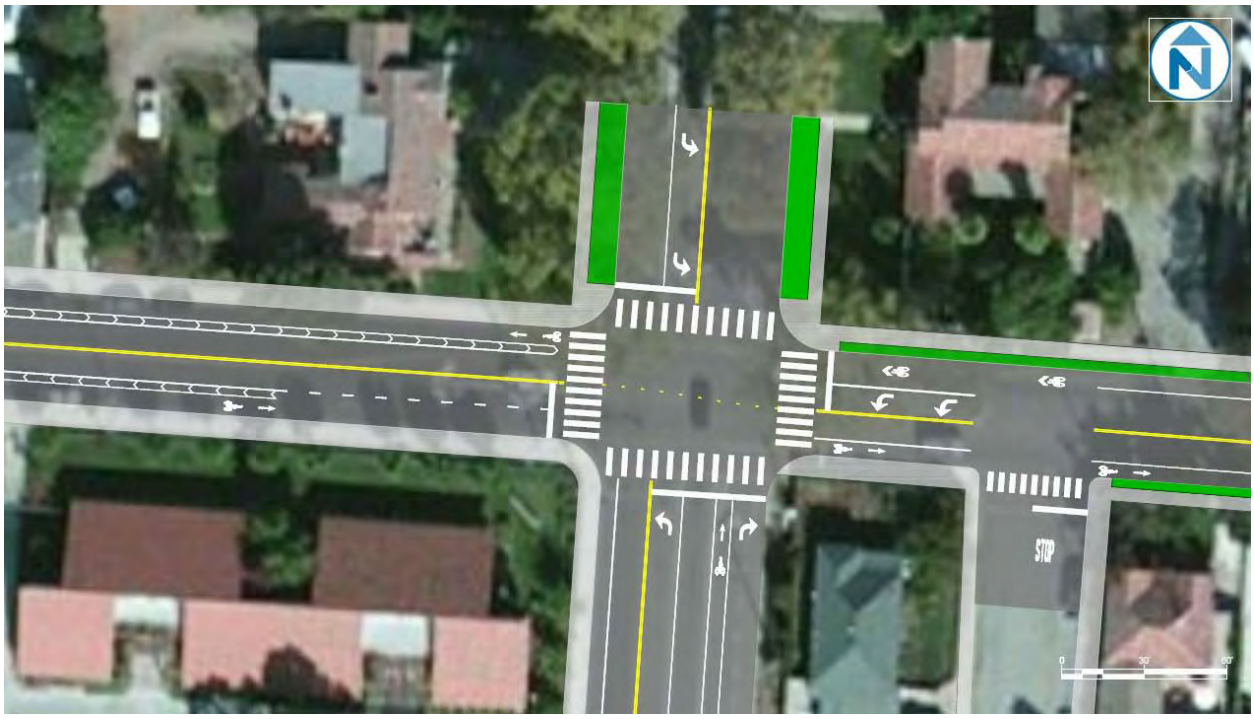
Intersection at San Benito Street

Although the cross-section on Nash Road would change as discussed previously, the proposed design retains the existing through and turn lanes at the intersection with San Benito Street in order to accommodate turning traffic volumes.

There are two main changes. Currently, there is a northbound bicycle lane on San Benito Street south of Nash Road to the right of the right turn lane. This is not a recommended configuration because it puts cyclists traveling straight on San Benito Street into conflict with vehicles turning right onto Nash Road. The concept envisions that the bike lane be moved to be between the northbound through lane and the right turn lane. Drivers turning right merge across the bicycle lane at the start of the turn pocket.

The second change relates to signal timing. Since the City has recently taken over ownership of San Benito Street and Nash Road from the County and the roads are no longer considered part of a highway route, the City would then be able to make changes that were previously impossible. The existing signal timing has a 2-minute cycle, which results in significant wait times for pedestrians and unnecessarily long queues for vehicles. Our analysis shows that the existing level of service could be maintained with a 60-second cycle time, or performance could be almost as good with the addition of a "leading pedestrian interval" – giving pedestrians the walk signal a few seconds before vehicles get a green light, so that they can walk out into the crosswalk where they are much more visible to motorists before traffic starts moving.

Figure 4-11 Nash Road at San Benito Street, Proposed



Source: Nelson\Nygaard, 2014

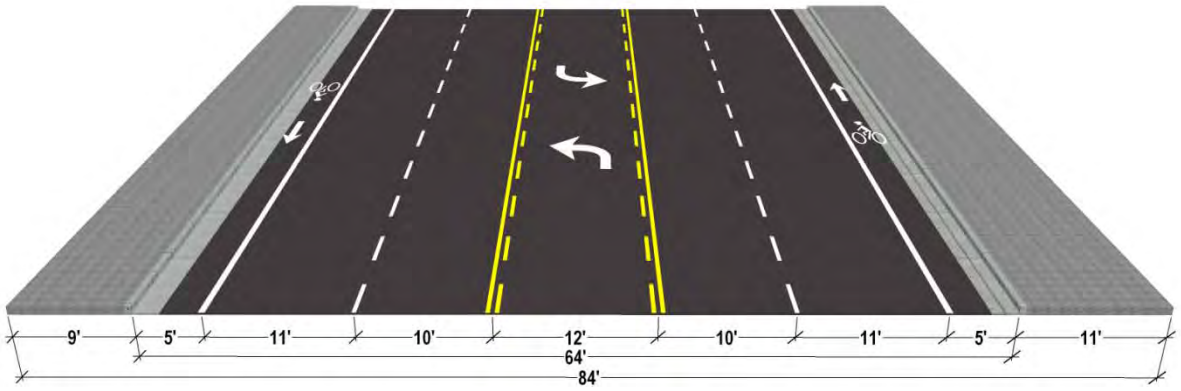
TRES PINOS ROAD

Segment Improvements

A road diet would be effective throughout Tres Pinos Road, given the lowered observed traffic volumes since the construction of the State Route 25 bypass and proposed roundabouts at Rancho Drive and Ladd Lane, described later. The road diet will have the same benefits seen in the proposed Nash Road design, including reduced vehicle speeding and safer pedestrian crossings. In addition, a mid-block pedestrian crossing is proposed halfway between Rancho Drive and Ladd Lane, to reduce the distance between crossings and facilitate more convenient and safer crossing opportunities (shown in Figure 4-14).

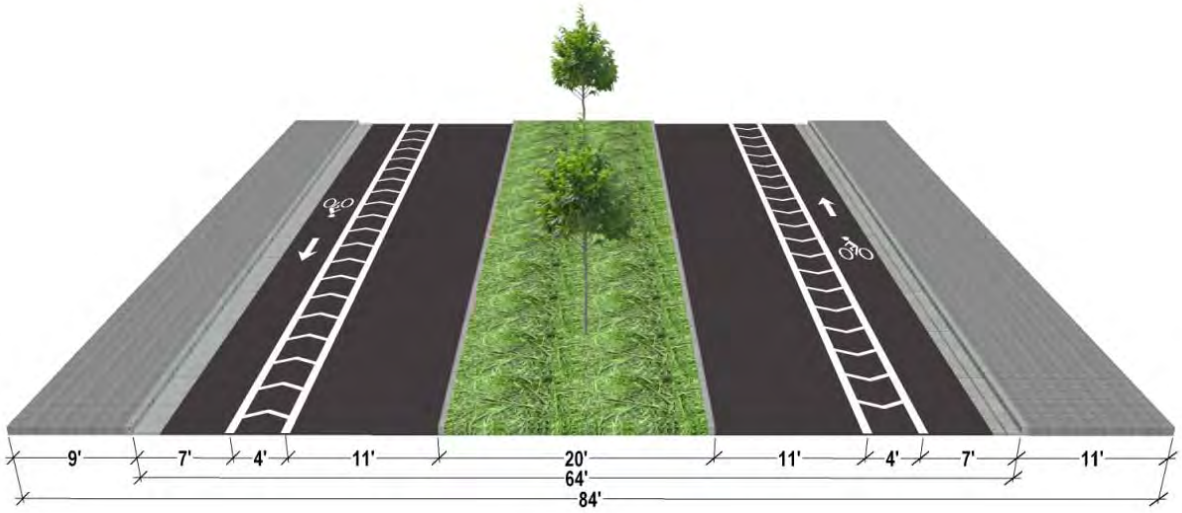
From Rancho Drive to State Route 25, the short-term improvement is a paint restriping. This first phase solution narrows lanes to 10-11' in order to make room for bicycle lanes, but does not eliminate any lanes. The long-term solution includes the construction of a central landscaped 20' median, widening bicycle lanes to 7' with additional 4' buffers, and maintaining 11' travel lanes to safely accommodate truck and bus traffic. The grassy, landscaped median has turning bays to enable access to and from commercial parking lots in the area, and also provides a safe refuge for pedestrians that may cross outside of marked crossings. These traffic calming and street beautification elements along Tres Pinos Road are designed to support its context as a major urban commercial center of Hollister.

Figure 4-12 Tres Pinos Road (Rancho to SR 25), Short-Term Improvement



Two travel lanes in each direction, a median turn lane, bike lanes in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

Figure 4-13 Tres Pinos Road (Rancho to SR 25), Long-Term Improvement



One travel lane in each direction, a landscaped median, buffered bike lanes in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

Figure 4-14 Tres Pinos Road (between Rancho and Ladd Ln), Long-Term Improvement

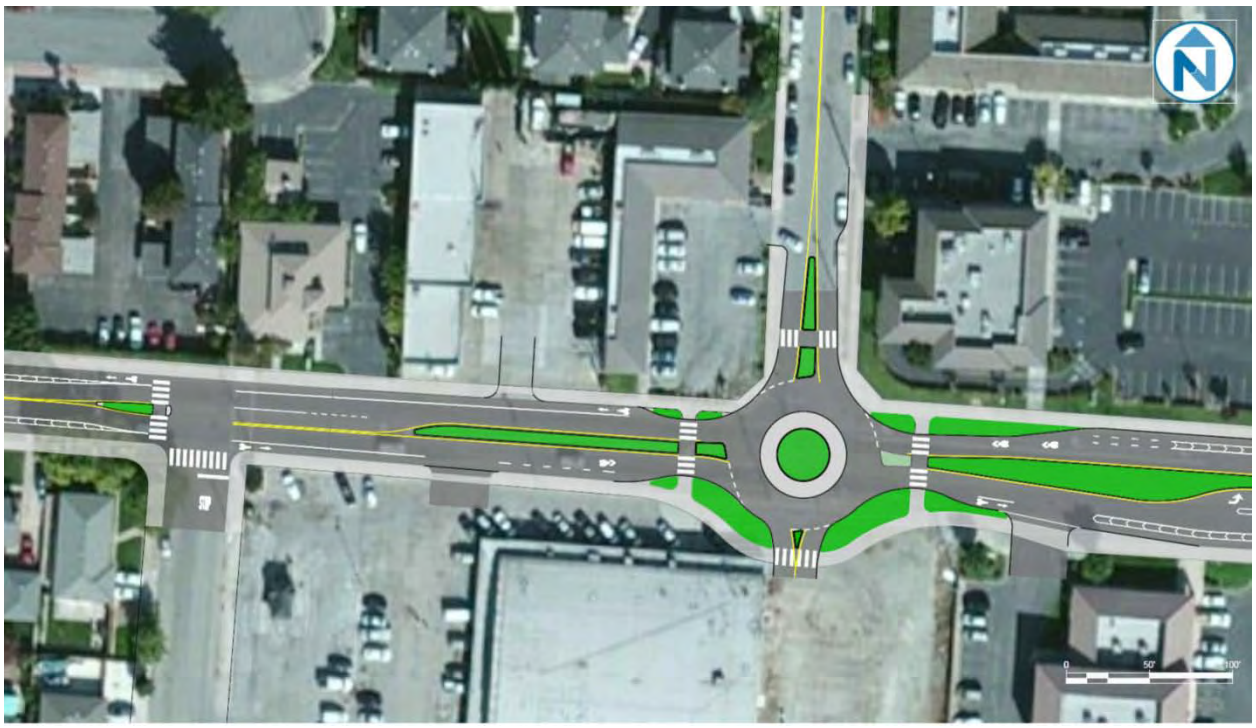
Raised and planted median, including midblock crossing
Source: Nelson\Nygaard, 2014

Intersection at Rancho Drive

A roundabout is the recommended design for the intersection of Tres Pinos Road and Rancho Drive. The roundabout will make it much easier for drivers to make a u-turn, eliminating the need to pull out across traffic or cut through parking lots. The anticipated redevelopment of the Gold's Gym property south of Tres Pinos Road would be directly accessible from the roundabout itself, and potentially benefit from its character as a gateway along the corridor. The roundabout design slows drivers as they approach Rancho Drive, improving safety for pedestrians and motorists alike. In addition, the shortened crossing distances at the roundabout would improve safety for the large numbers of children that cross at this intersection on their way to school.

Construction of this roundabout is considered to be a long-term improvement that would be integrated or phased in with other built features along Tres Pinos Road, such as the raised median between Rancho Drive and Ladd Lane.

Figure 4-15 Tres Pinos Road (Cushman to Rancho), Long-Term Improvement



Source: Nelson\Nygaard, 2014

At the intersection with Cushman Street, the crosswalk should be moved to the west side. This would allow the left turn lane from Tres Pinos Road to Cushman Street to be retained, while a small pedestrian refuge could be added on the west side. The pedestrian refuge shortens the distance people need to cross in one go, and lets them deal with traffic from only one direction at a time.

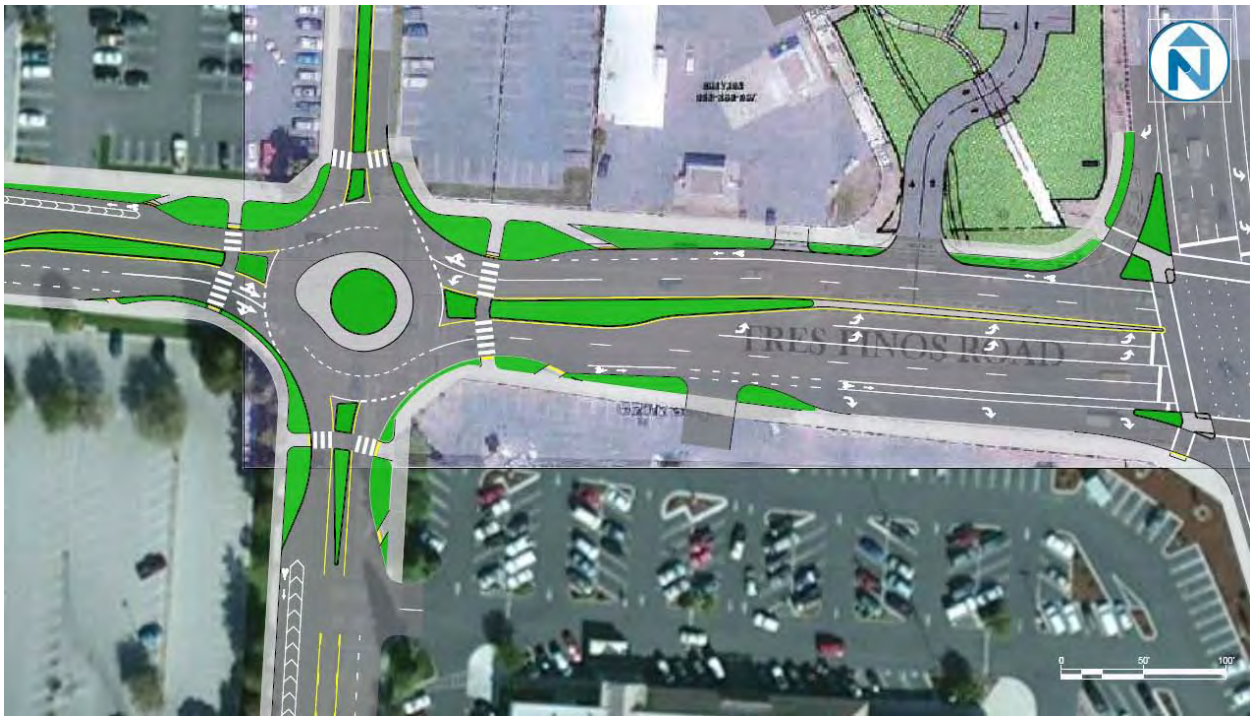
Intersection at Ladd Lane

A roundabout is the recommended design at Tres Pinos Road and Ladd Lane. This would provide an additional U-turn point for drivers along Tres Pinos Road and exiting commercial parking lots. Since multi-lane roundabouts can be more difficult to navigate for cyclists, these users will also have the ability to exit onto the sidewalk prior to the roundabout entrance on the eastern and western legs. They may re-

enter the bicycle lane using ramps on the opposite side. This roundabout is larger than the adjacent one at Rancho Drive in order to accommodate higher traffic volumes and large trucks making deliveries, and presents an opportunity to be a key gateway into Hollister from the highway, welcoming residents and visitors alike.

This roundabout is considered to be a long-term improvement that would be integrated or phased in with other built features along Tres Pinos Road, such as the raised median between Ladd Lane and Rancho Drive.

Figure 4-16 Tres Pinos Road (Ladd Ln to SR 25), Long-Term Improvement

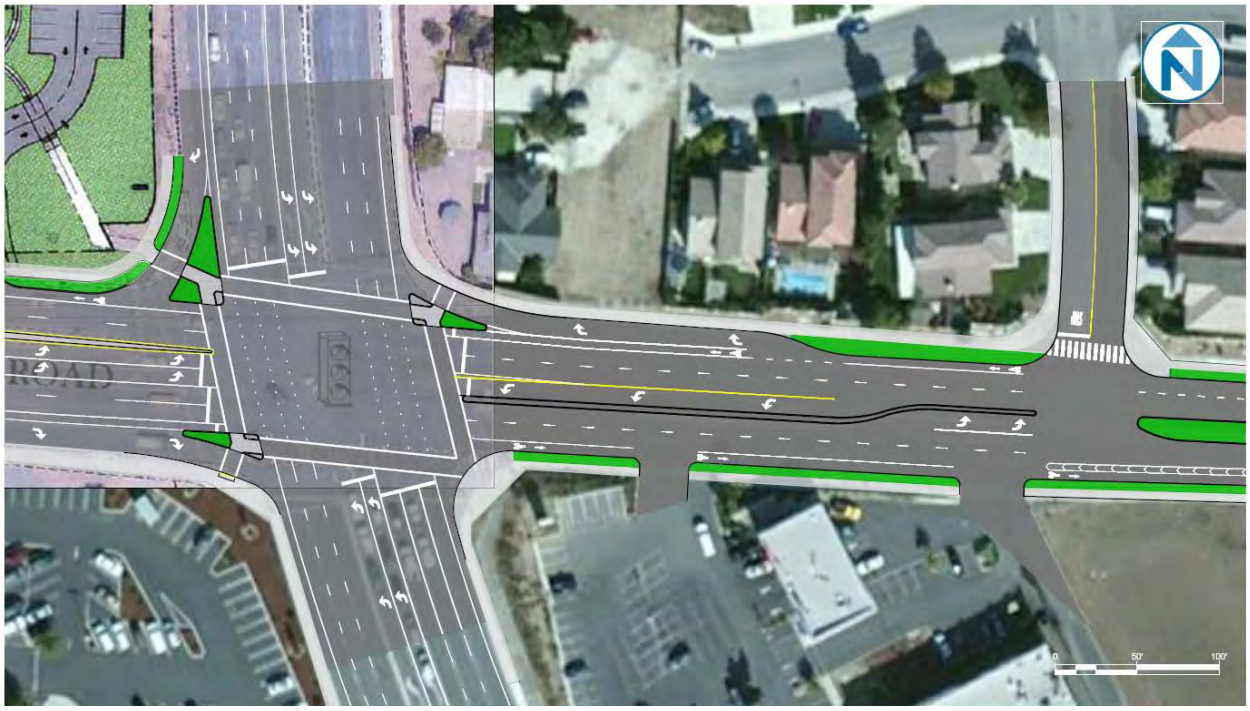


Source: Nelson\Nygaard, 2014

Intersection at Highway 25

The key improvements recommended for the intersection of Tres Pinos Road and State Route 25 focus on implementing channelizing right-turn islands. These islands shorten crossing distances for pedestrians on all legs of the intersection, while providing a more convenient turning movement for right-turning motorists onto and off of the highway. An important, differential element of this design compared to conventional right-turn islands, however, is the use of compound curves. Rather than provide a large, sweeping turning radius for vehicles, compound curves direct a driver's line of vision to pedestrians that are either waiting or already crossing from the curb to the island. A tighter turning radius at the crossing forces vehicles to slow down when approaching the street they are turning onto. This design is safer than conventional designs because it lowers speeds and allows drivers to focus on the crosswalk and merging with the new street separately.

Figure 4-17 Tres Pinos/Sunnyslope Road (SR 25 to Black Forest Drive), Long-Term Improvement



Source: Nelson\Nygaard, 2014

SUNNYSLOPE ROAD

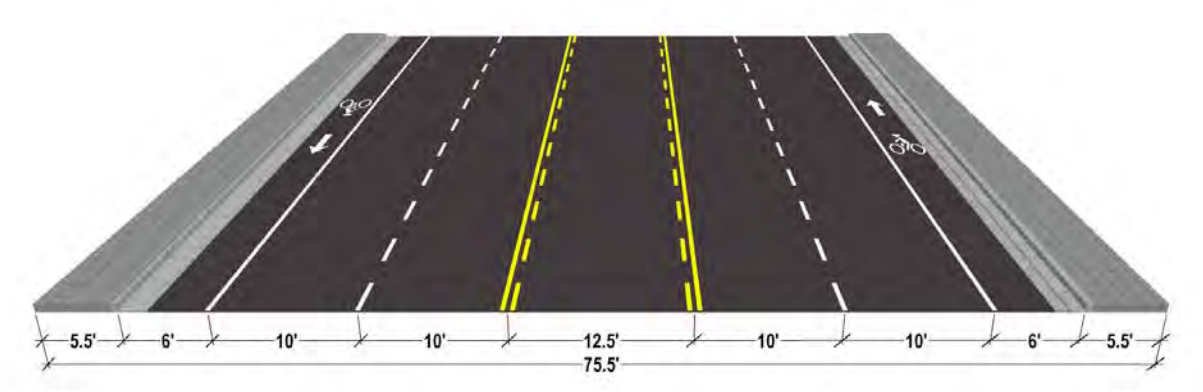
Segment Improvements

Existing conditions analysis of Sunnyslope Road shows that a road diet would be effective here, as with other segments of the Nash/Tres Pinos/Sunnyslope corridor. Traffic volumes can be accommodated with two travel lanes and left turn pockets. Truck volumes are very low in this primarily residential area, and thus lanes can also be narrowed to 10' rather than 11'. Vehicle speeding along this corridor and near Sunnyslope Elementary School would be reduced by the traffic calming effects of the road diet and lane narrowing.

From State Route 25 to Memorial Drive, the short-term improvement is a paint restriping. This restriping maintains two travel lanes in each direction—narrowed to 10'—as well as slightly widened Class II bicycle lanes to a consistent 6' and a wider center turning lane at 12.5'. The recommended long-term solution implements the road diet and reduces travel lanes to one in each direction along with major infrastructure improvements. This design narrows the curb-to-curb distance by 10', reallocating this space equally as 5' grassy buffers for pedestrians on the sidewalk, and creates a 14.5' landscaped median with turning bays as needed. Bicycle lanes will also be improved with 4' striped buffers separating cyclists from automobile traffic.

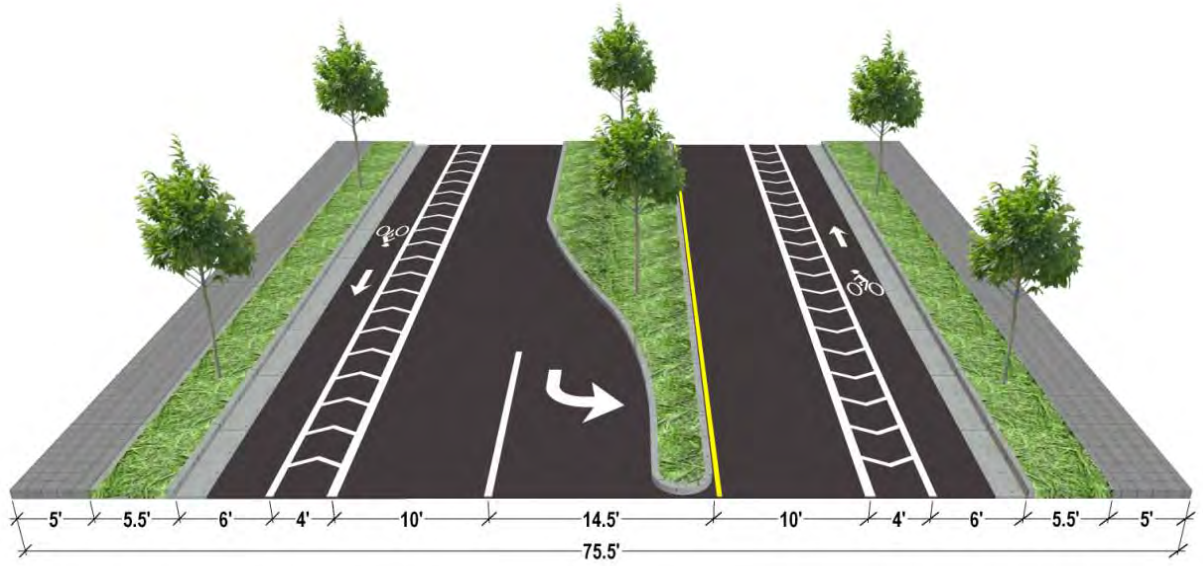
East of Memorial Drive, the improvement includes a road diet, travel lanes narrowed to 10' in each direction, center turn lane slightly widened to 11', and reallocation of gained space to a 5' Class II bicycle lane with a 2' buffer, and on-street parking on the south side of Sunnyslope Road. As today, the north side is reserved for school bus drop-off.

Figure 4-18 Sunnyslope Road (SR 25 to Memorial), Short-Term Improvement



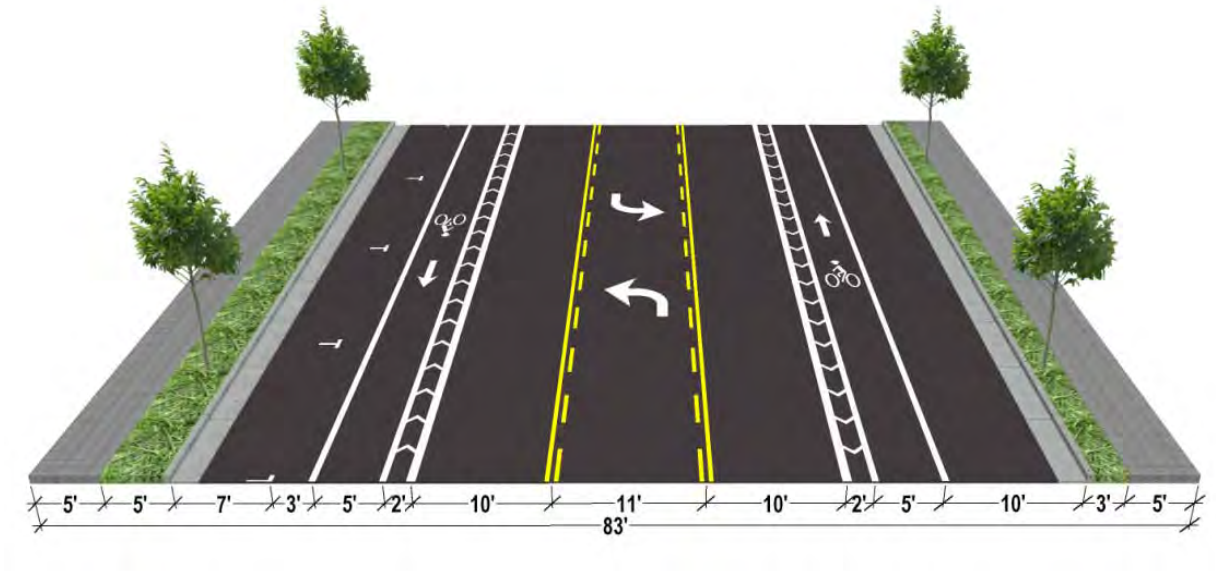
Two narrowed travel lanes in each direction, a center turn lane, bike lanes in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

Figure 4-19 Sunnyslope Road (SR 25 to Memorial), Long-Term Improvement



One travel lane in each direction, a protected left turn in the eastbound direction, a landscaped median, buffered bike lanes in each direction, landscaped buffers in each direction, and sidewalks in each direction.
Source: Nelson\Nygaard, 2014

Figure 4-20 Sunnyslope Road (East of Memorial), Long-Term Improvement



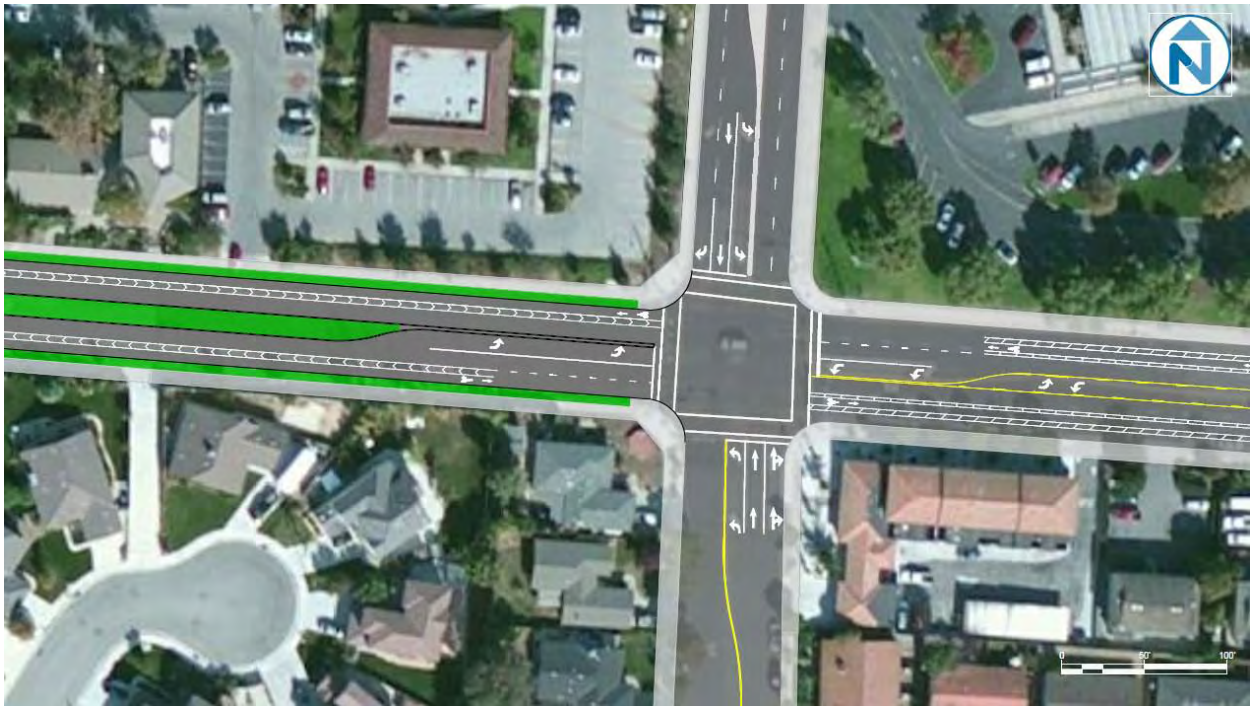
One travel lane in each direction, a center turn lane, buffered bike lanes in each direction,parking in one direction, landscaped buffers in each direction, and sidewalks in each direction. The north (right) curb is reserved for school bus drop-off

Source: Nelson\Nygaard, 2014

Intersection at Memorial Drive

The intersection of Sunnyslope Road with Memorial Drive brings together the reconfigured Sunnyslope Road with Memorial Drive, but retains the existing number of through lanes and turn lanes in order to accommodate traffic volumes. Sunnyslope is narrowed by 10 feet due to the proposed 5 foot planted buffer on either side of the street. This allows for a slightly shorter crosswalk on the west side, and slightly shorter corner radii that reduce turning speeds.

Figure 4-21 Sunnyslope Road at Memorial Drive, Long-Term Improvement



Source: Nelson\Nygaard, 2014

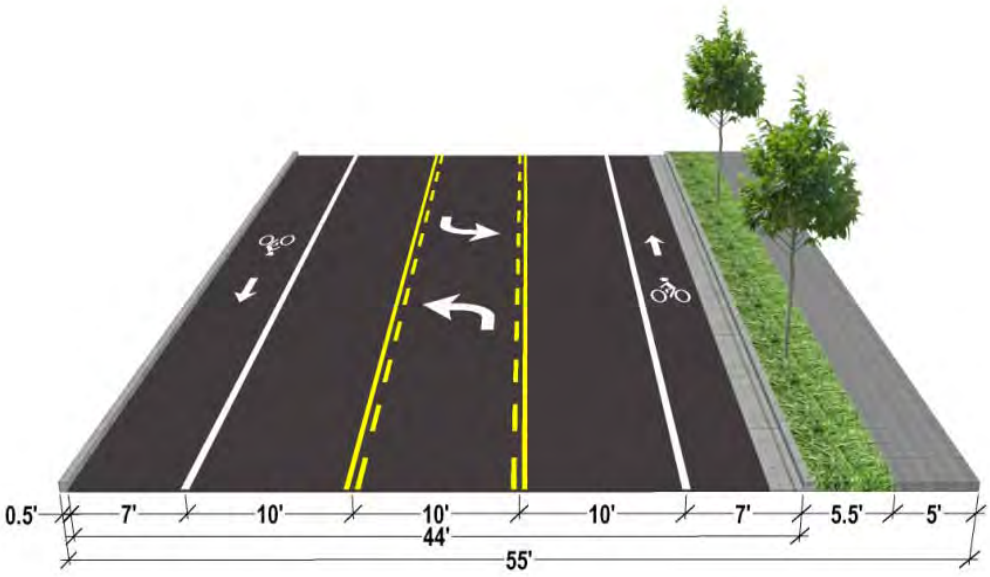
MCCRAY STREET

Segment Improvements

Accommodating bicycles on McCray Street would be relatively easier than in the other corridors in this study area. Existing travel lanes have sufficient width that lanes can be narrowed and bicycle lanes added (in places with enough room for a buffer between the travel lane and the bicycle lane).

Adding a sidewalk within the existing right-of-way is more challenging. The proposed design includes a continuous sidewalk on the eastern side of McCray Street, envisioning that it could be constructed by obtaining a 10 foot easement from developers of the properties on the east side of McCray Street.

Figure 4-22 McCray Street (north of Hawkins), Short-Term Improvement



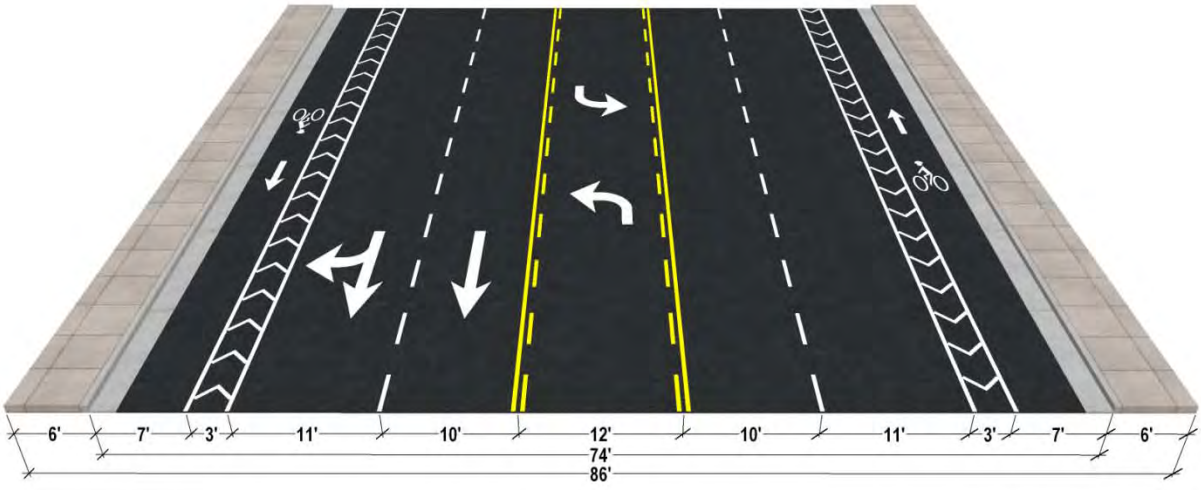
One travel lane in each direction, a center turn lane, bike lanes in each direction,a landscaped buffer and sidewalk on one side.

Source: Nelson\Nygaard, 2014

McCray Street north of South Street is outside the study area, but the design concepts include cross sections between South Street and 4th Street. This supports a strong community desire for improved north-south bicycle connectivity. The future redevelopment of the property on the west side of McCray Street also provides an opportunity to extend the McCray Street north from Hawkins all the way to 4th Street in the long term.

As elsewhere, our short-term recommendation for this segment of McCray Street makes use of the existing generous width to add buffered bicycle lanes merely by narrowing the existing lanes. The design does not change vehicle capacity, but would considerably improve bicycling conditions.

Figure 4-23 McCray Street (north of South St), Short-Term Road Diet

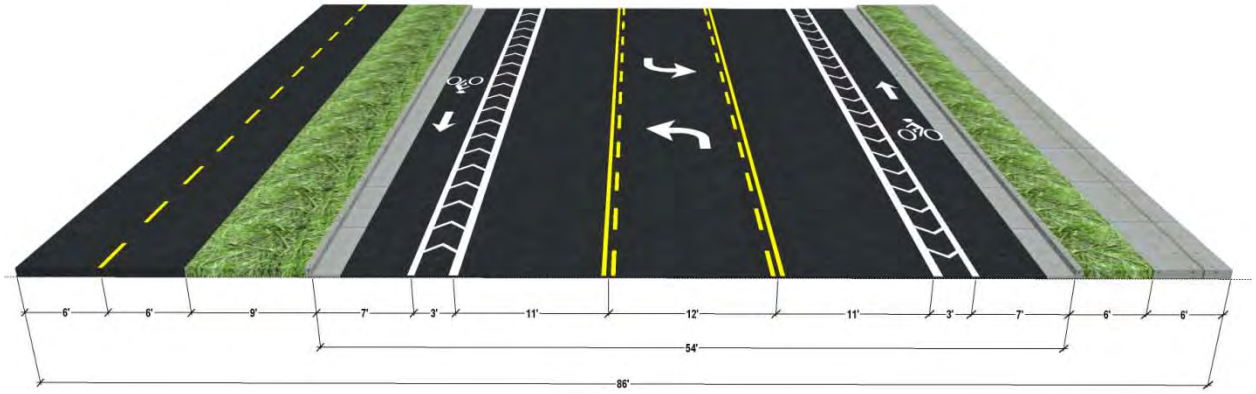


Two travel lanes in each direction, with a right turn option in the eastbound direction, a center turn lane, buffered bike lanes in each direction, and sidewalks in each direction.

Source: Nelson\Nygaard, 2014

The long term recommendation adds a fully separated bicycle facility east of McCray Street. The existing path that ends at Hawkins would be extended across South Street, veering east to cross at McCray Street, before extending north parallel to McCray Street as shown in Figure 4-23. Similarly to the proposed sidewalk on the east side of McCray Street south of South Street, the proposed bicycle path would be built on an easement when the property west of McCray Street is redeveloped. In addition, traffic volumes are low enough that a single lane in each direction would provide adequate level of service when combined with the center turn lane.

Figure 4-24 McCray Street (north of South St), Long-Term Road Diet



Between Gibson Drive and Park Street

On the block between the Rancho Park and the vacant lot, the City desired to create a "main street" type experience in support of future commercial development. Two different scenarios were displayed during the third public workshop. The option shown in Figure 4-25 received the most support from the public. It retains almost all the parking currently on Prospect Avenue, but reconfiguring the entrances makes the design unambiguously a parking lot rather than the current hybrid street/parking lot configuration. Both the City and the Rancho San Justo Middle School also preferred this design, retaining the existing Prospect Avenue parking lot.

The bicycle/pedestrian path is moved to the west side, bordering the park. This configuration would result in fewer driveways cutting across the multi-use path.

Pedestrians gain a sidewalk on the east side of McCray Street, and also a mid-block crossing from the park across the parking lot and McCray Street. This will provide convenient pedestrian access between any new retail or dining establishments and the park.

McCray Street has been moved west, in order to maximize developable area in the vacant parcel. In keeping with the "main street" type feel, it is designed with two narrow lanes to encourage a low-speed, bike and pedestrian-friendly environment. The street also has parallel parking to serve retail, and for its traffic calming effect.

Figure 4-25 Block between Gibson Drive and Park Street

Source: Nelson\Nygaard, 2014

Intersection at Gibson Drive

Figure 4-26 Roundabout at McCray Street and Gibson Drive

Source: Nelson\Nygaard, 2014

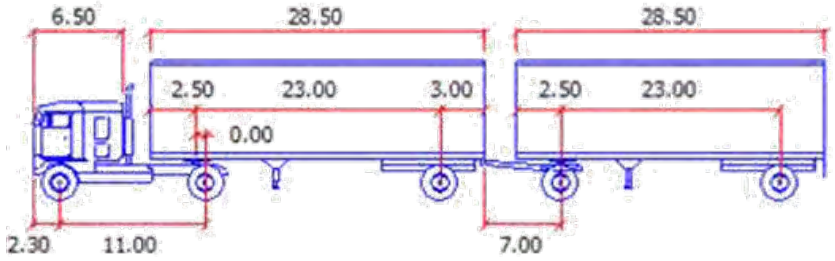
The roundabout at Gibson Drive is smaller than the other roundabouts in this conceptual plan. It provides access to the residences on Gibson Drive, Walgreens, and the Toro gas station. It also has the potential to serve the future development on the vacant property east of McCray Street. Due to the smaller size, truck access is maintained by using a truck apron only, but not a raised central island. To smaller passenger vehicles the roundabout will have the same traffic calming function as larger roundabouts, but trucks will be able to drive over the entire island in order to make turns. The roundabout also adds shorter and safer crossings for pedestrians and cyclists, improving connectivity between Tres Pinos Road and the bicycle path parallel to McCray Street.

Intersection at Park Street

Figure 4-27 McCray Street at Park Street, Long-Term Improvement

The roundabout was checked for truck turns based on the trucks that commonly use the area. The design team contacted Brigantino's Irrigation and discussed their delivery needs. Their largest deliveries arrive on 53 foot trailers or doubles with two 28.5 foot trailers – consequently the roundabout design was tested using AASHTO's WB67 and WB67D test vehicles. The overall size of the roundabout is sufficient to handle turning movement by these trucks. However, during the final design process, based on a survey and not aerial imagery, truck turning templates will need to be applied again, and minor adjustments to the approach, central island, and splitter island geometry may be needed.

Figure 4-28 AASHTO WB-67D Test Vehicle



Source: Policy on Geometric Design of Highways and Streets, AASHTO, 2011 6th Edition

Intersection at Gibbs Drive

A recurring question during the public workshops was "is it necessary to keep both McCray and Prospect?" Although traffic volumes alone don't justify keeping two large parallel streets so near each other, parts of Prospect Avenue are necessary to maintain access to some businesses and residences on the west side between Hawkins Street and Gibbs Street. South of Park Street, Prospect Avenue ceases to function as a street but is an important parking lot for visitors to the Rancho San Justo and, to a lesser extent, for parents of children at the Rancho San Justo school.

Figure 4-29 McCray Street and Prospect Avenue at Gibbs Drive

Source: Nelson\Nygaard, 2014

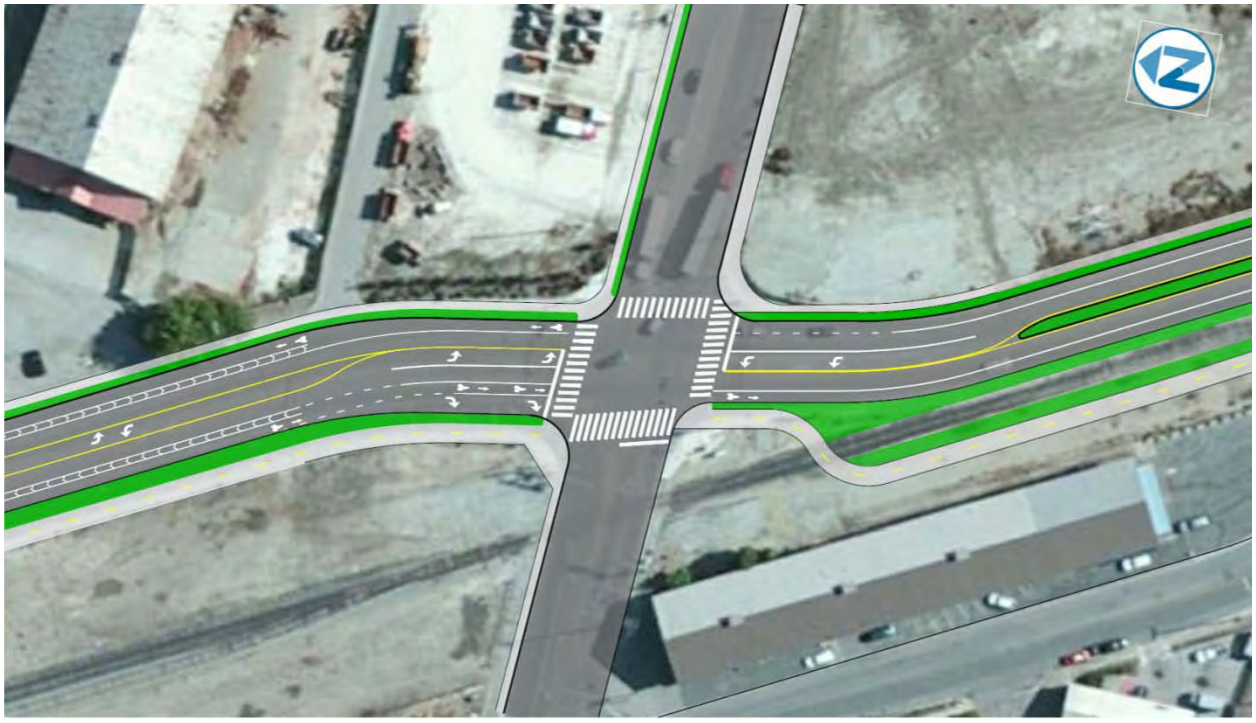
Our conceptual plan maintains Prospect Avenue to preserve access as today, but reclaims the area between Gibbs Drive and Park Street to create a new public space. At the design stage residents and City planners should decide what the new space could be used for, but one possibility is recreational/park space for the Prospect Avenue Senior Apartments.

Prospect Avenue would be connected to McCray Street by curving it east to merge with McCray Street at Gibbs Dr. This has the additional benefit of improving safety at the intersection of Park Street and McCray Street by reducing it to two crossing streets, which many drivers find confusing in its existing 6-leg form.

Intersection at South Street/Hillcrest Road

Several improvements are envisioned for the intersection at South Street and Hillcrest Road. In the long-term scenario shown in Figure 4-29, McCray Street has received a road diet both north and south of South Street. In addition, corner radii have been reduced slightly to lower cornering speeds and reduce pedestrian crossing distances. Reduced crossing distances benefit not only pedestrians, but also motorists because the signal cycle can be shortened – reducing waiting times.

Figure 4-30 McCray Street at South Street



Source: Nelson\Nygaard, 2014

The bicycle path that currently ends at Hawkins Street would be extended north, crossing the railway tracks just south of the intersection and crossing South Street in the extended crosswalk on the west side before continuing parallel to McCray Street all the way up to 4th Street. The railway crossing is perpendicular to the tracks to avoid the risk of bicycle wheels getting caught. The exact location of the crossing would need to be determined during the design phase in discussion with the new owners of the railway property.

Appendix A

Relevant Jurisdictions with Complete Streets Policies

RELEVANT LOCAL JURISDICTIONS WITH COMPLETE STREETS POLICIES

- Alameda, CA Complete Streets Policy, 2013
  http://alamedaca.gov/sites/default/files/document-files/alacitycompletestreetsresolution.pdf
- Albany, CA Complete Streets Policy, 2013
  http://www.albanyca.org/index.aspx?page=1303
- American Canyon, CA Resolution 2012-72, 2012
  http://americancanyon.granicus.com/MetaViewer.php?view_id=5&clip_id=563&meta_id=42932
- American Canyon, CA General Plan, Circulation Element plan, 2013
  http://www.cityofamericancanyon.org/Modules/ShowDocument.aspx?documentid=3871
- Berkeley, CA Resolution 65,978-N.S., 2012
  http://www.ci.berkeley.ca.us/uploadedFiles/Public_Works/Level_3_-_Transportation/Berkeley%20Complete%20Streets%20Council%20Report%2012%2011%2012].pdf
- Citrus Heights, CA General Plan, 2011
  http://www.citrusheights.net/home/index.asp?page=1513
- Dublin, CA Resolution No. 199-12, 2012
  http://dublinca.gov/DocumentCenter/View/3909
- Emeryville, CA Resolution No. 13-03, 2013
  https://ca-emeryville.civicplus.com/DocumentCenter/View/5866
- Hayward, CA Complete Streets Policy, 2013
  http://www.hayward-ca.gov/CITY-GOVERNMENT/CITY-COUNCIL-MEETINGS/2013/CCA13PDF/cca031913full.pdf
- Larkspur, CA Complete Streets Policy, 2012
  http://www.larkspurcityhall.org/DocumentCenter/View/2555
- Livermore, CA Resolution 2013-007, 2013
  http://www.cityoflivermore.net/documents/CompStreetReso_red.pdf
- Los Altos Hills, CA Complete Streets Policy (Resolution p 8o-l13), 2013
  http://losaltoshills.granicus.com/MetaViewer.php?view_id=2&clip_id=90&meta_id=12106
- Manteca, CA General Plan 2023: Circulation Element, 2011
  http://www.ci.manteca.ca.us/communitydevelopment/Documents/Manteca%20Circulation%20Element%20Update%20Final%20EIR.pdf
- Oakland, CA Complete Streets Policy, 2013
  http://www2.oaklandnet.com/n/OAK039959
- Oakland, CA Ordinance No. 13153, 2013
  https://law.resource.org/pub/us/code/city/ca/Oakland%20CA%20Vol%20I%20thru%20Supp%2059.pdf
- Piedmont, CA Resolution No. 106 - 12, 2012
  http://www.ci.piedmont.ca.us/publicworks/docs/planning/complete_streets.pdf

- Pleasant Hill, CA Complete Streets Policy, 2013
  http://www.ci.pleasant-hill.ca.us/DocumentCenter/View/10516
- Pleasanton, CA Complete Streets Policy, 2012
  http://www.cityofpleasantonca.gov/pdf/Traffic/CompleteStreets2012.pdf
- Redwood City, CA General Plan - Circulation Section, 2010
  http://www.redwoodcity.org/phed/planning/Area%20H/pdf/preciseplan/Circulation.pdf
- San Anselmo, CA Complete Streets Policy, 2012
  http://www.townofsananselmo.org/ArchiveCenter/ViewFile/Item/3521
- San Francisco, CA Transit-First Policy; Public Works (Ordinance N5o. 209-05), 1995
  http://www.sfenvironment.org/sites/default/files/editor-uploads/transportation_commute/pdf/cbo_annual_report_2011.pdf
- Santa Cruz County Regional Transportation Commission, Monterey Bay Area Complete Streets Guidebook, 2013
  http://vacaville.granicus.com/MetaViewer.php?view_id=2&clip_id=1102&meta_id=51047
- Vacaville, CA Complete Streets Policy, 2012
  http://vacaville.granicus.com/MetaViewer.php?view_id=2&clip_id=1102&meta_id=51047

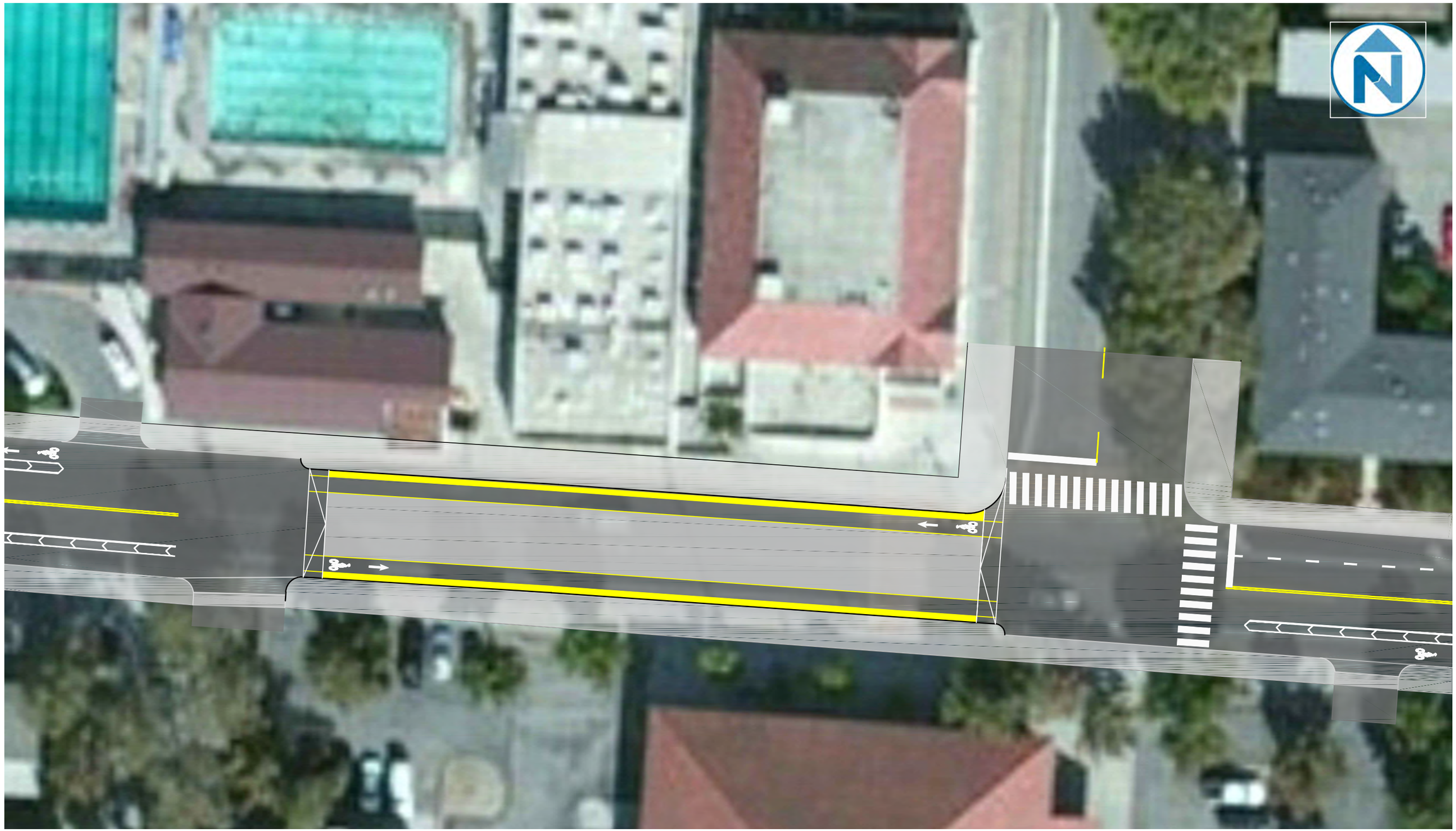
APPENDIX B

Detailed Plan Views in CAD

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Nash at San Benito High School, 1
Hollister, CA

CONCEPTUAL
NOT FOR CONSTRUCTION

NELSON NYGAARD



Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Nash at San Benito High School, 2
Hollister, CA

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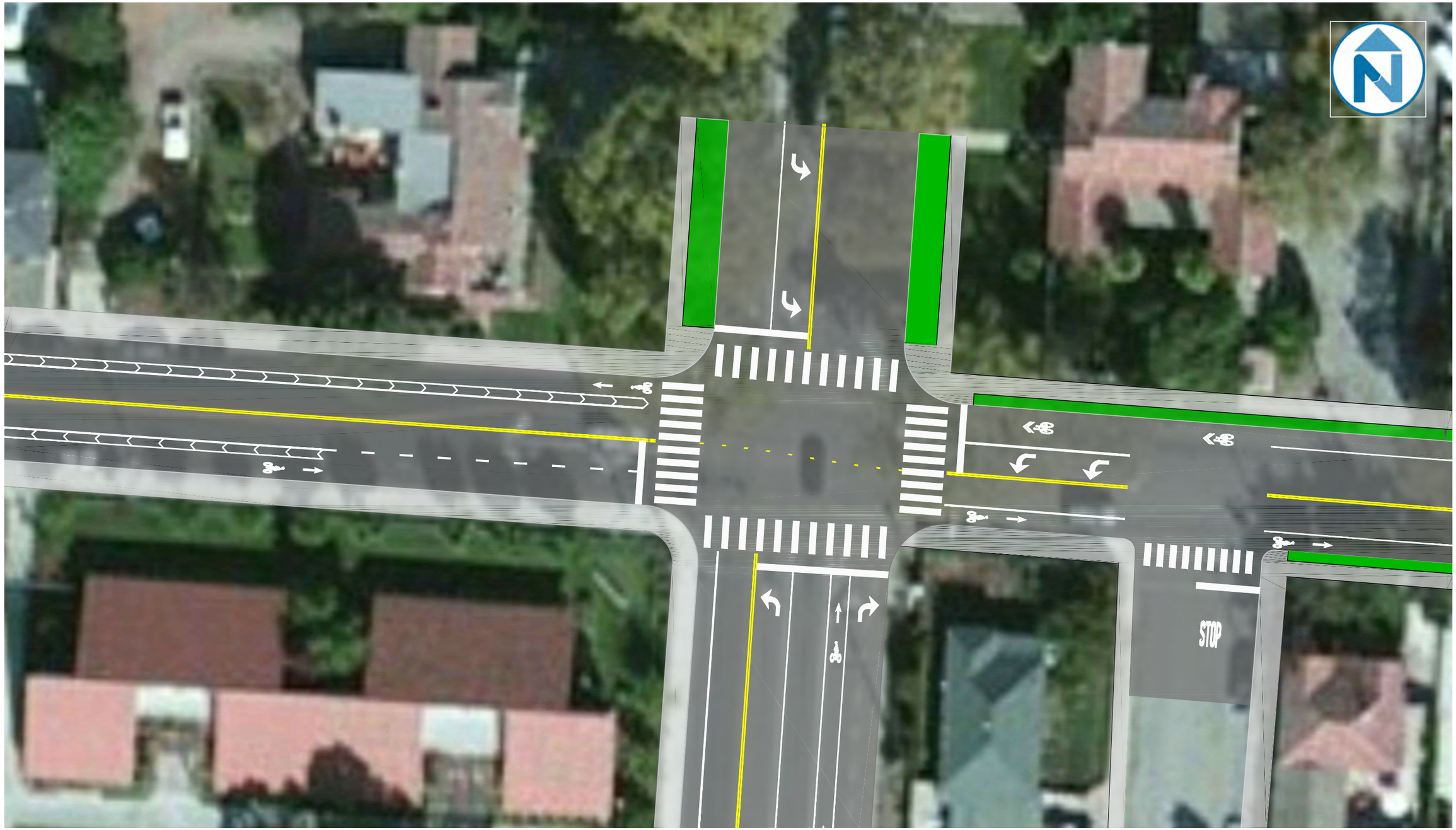

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Nash Road at Prune Street
Hollister, CA

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NOT FOR CONSTRUCTION

NELSON NYGAARD

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Nash Road at Sally Street
Hollister, CA

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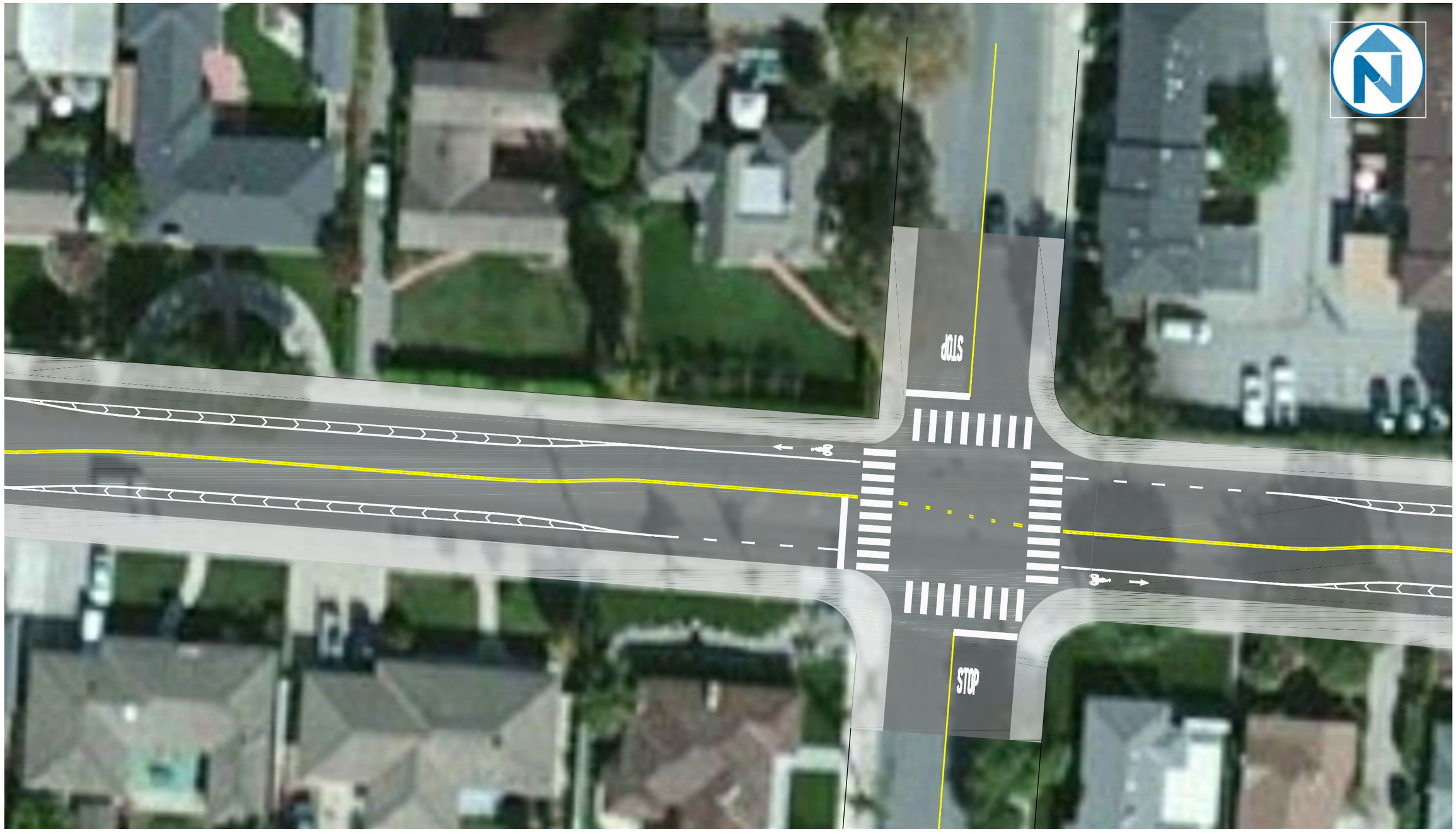

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Nash Road between Sally Street and Prune Street
Hollister, CA

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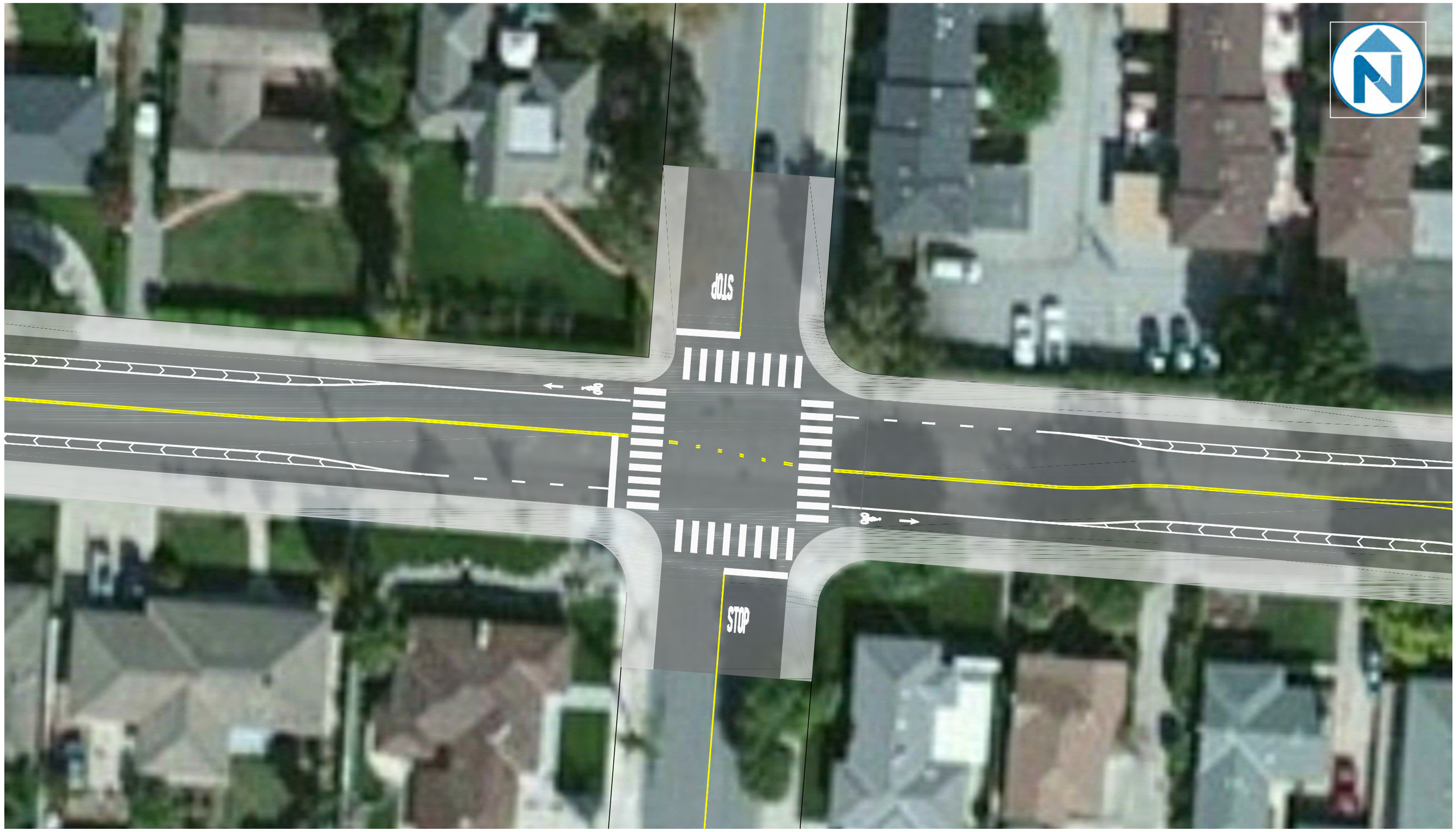

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Nash Road between Sally Street and Prune Street
Hollister, CA

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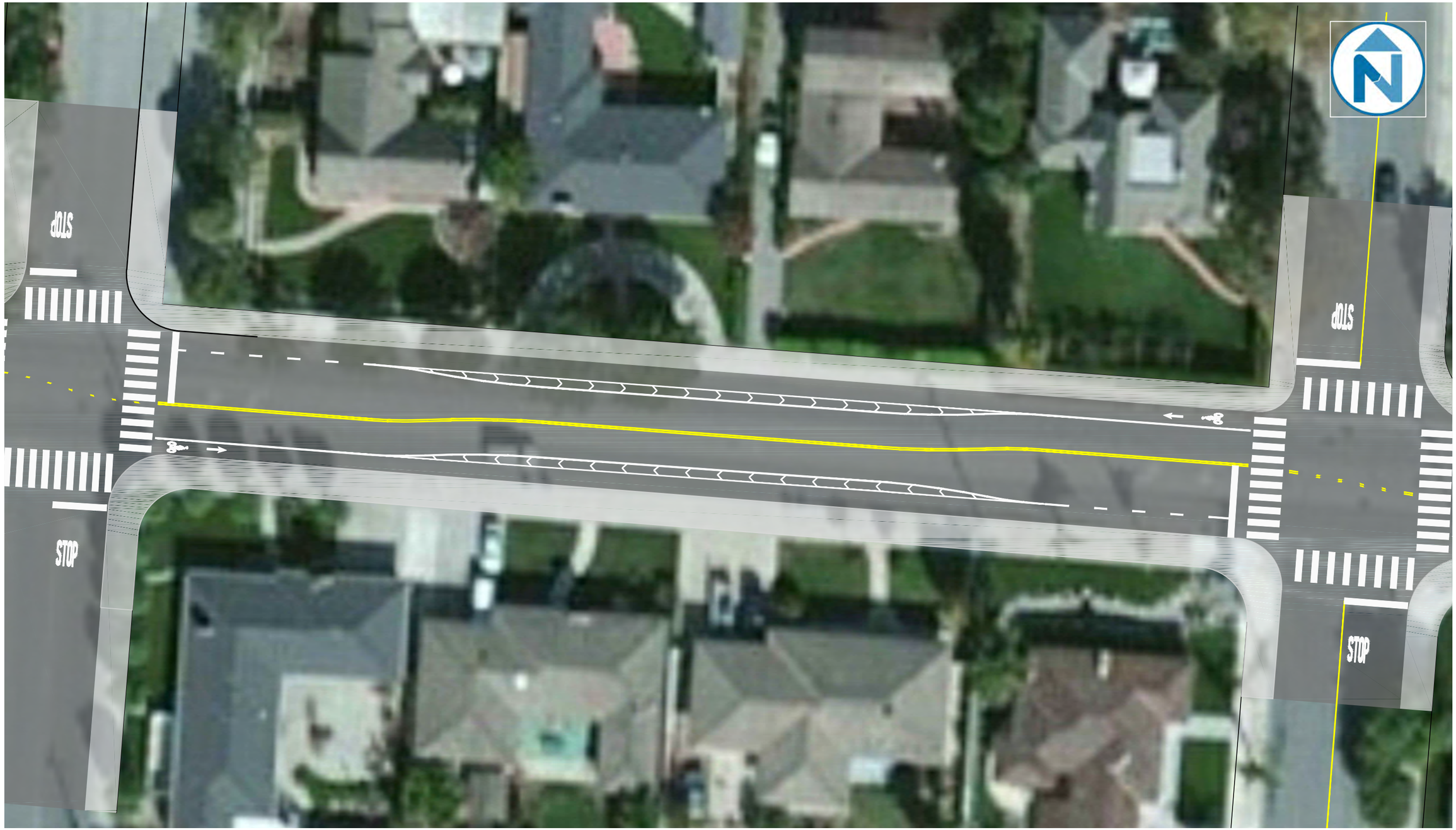

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Nash Road between Sally Street and Prune Street
Hollister, CA

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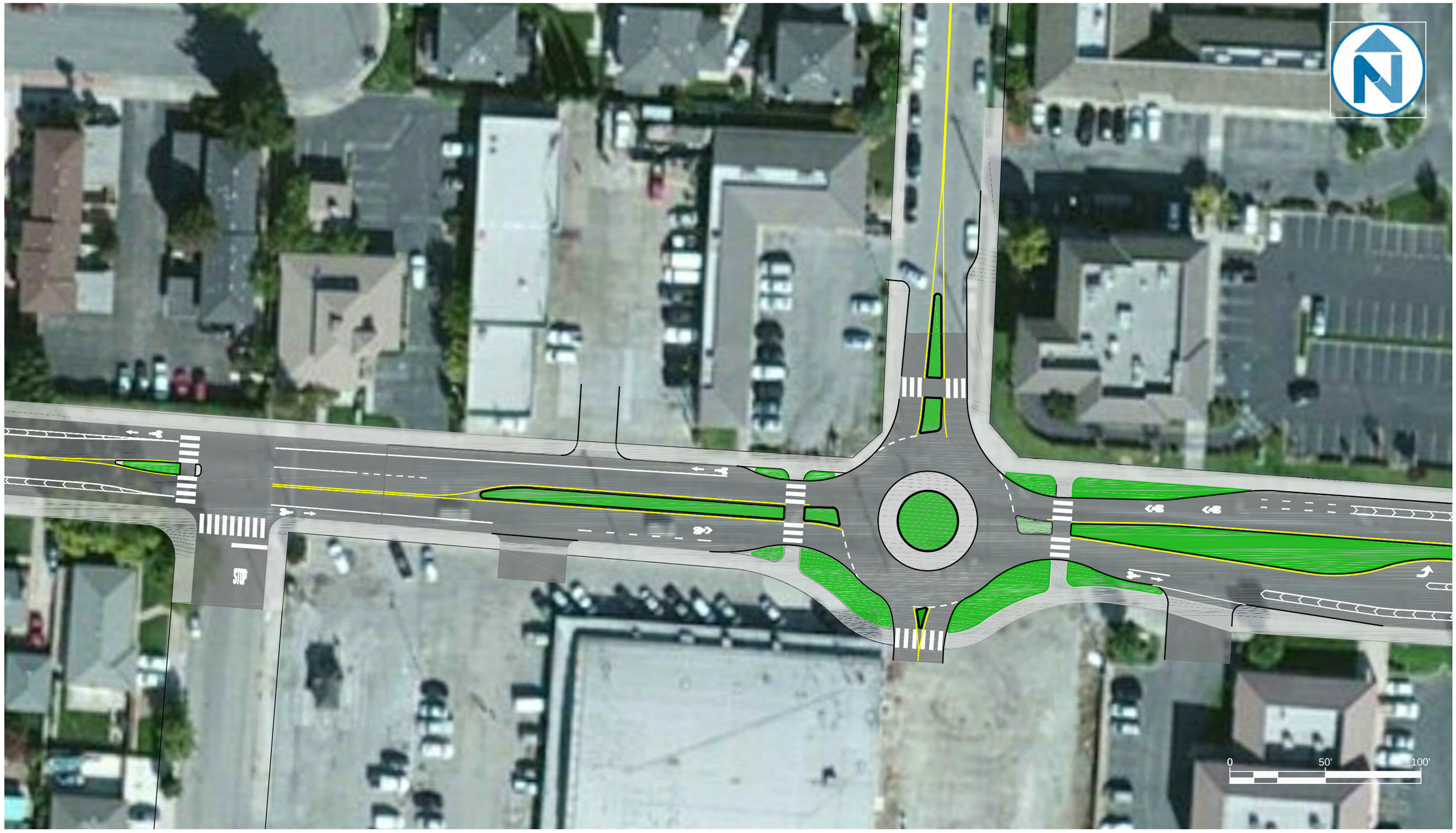

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Tres Pinos Rd at Rancho Dr
Hollister, CA

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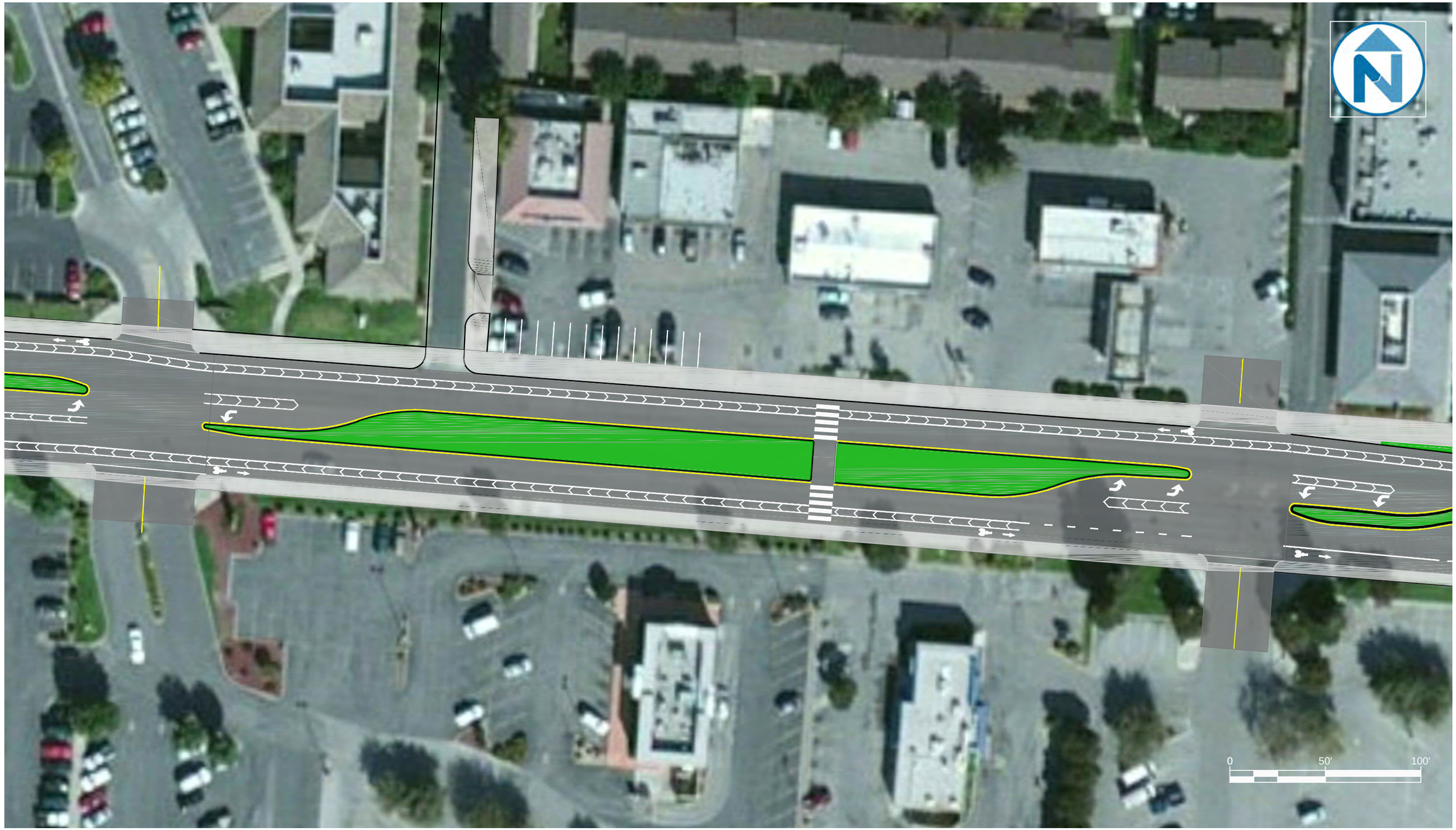

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Tres Pinos Rd at Ladd Ln
Hollister, CA

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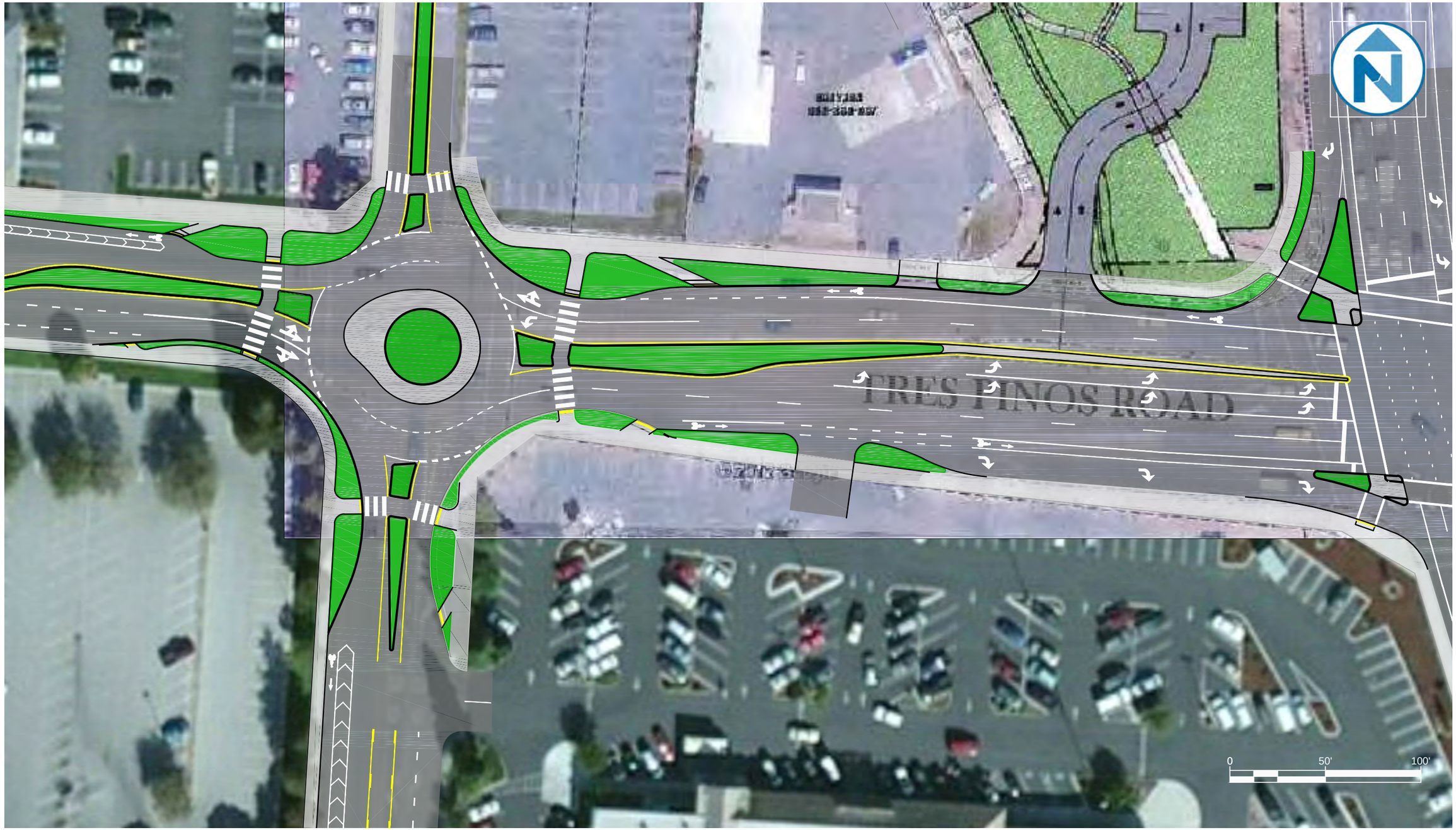

Complete Streets for Nash, Tres Pinos, Sunnyslope, and McCray
Tres Pinos Rd at Ladd Ln
Hollister, CA

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NOT FOR CONSTRUCTION

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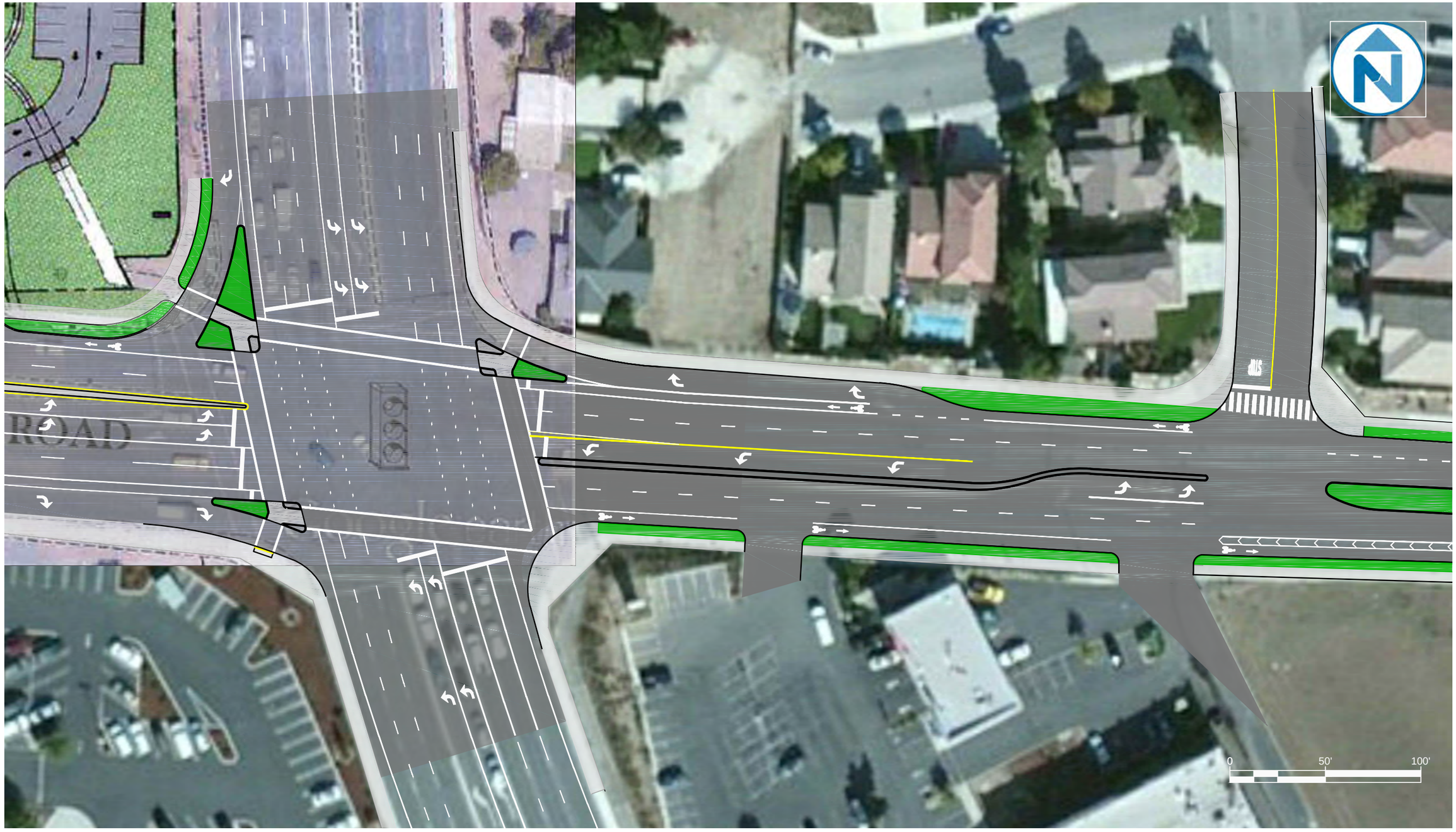


Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
Tres Pinos at Highway 25
Hollister, CA

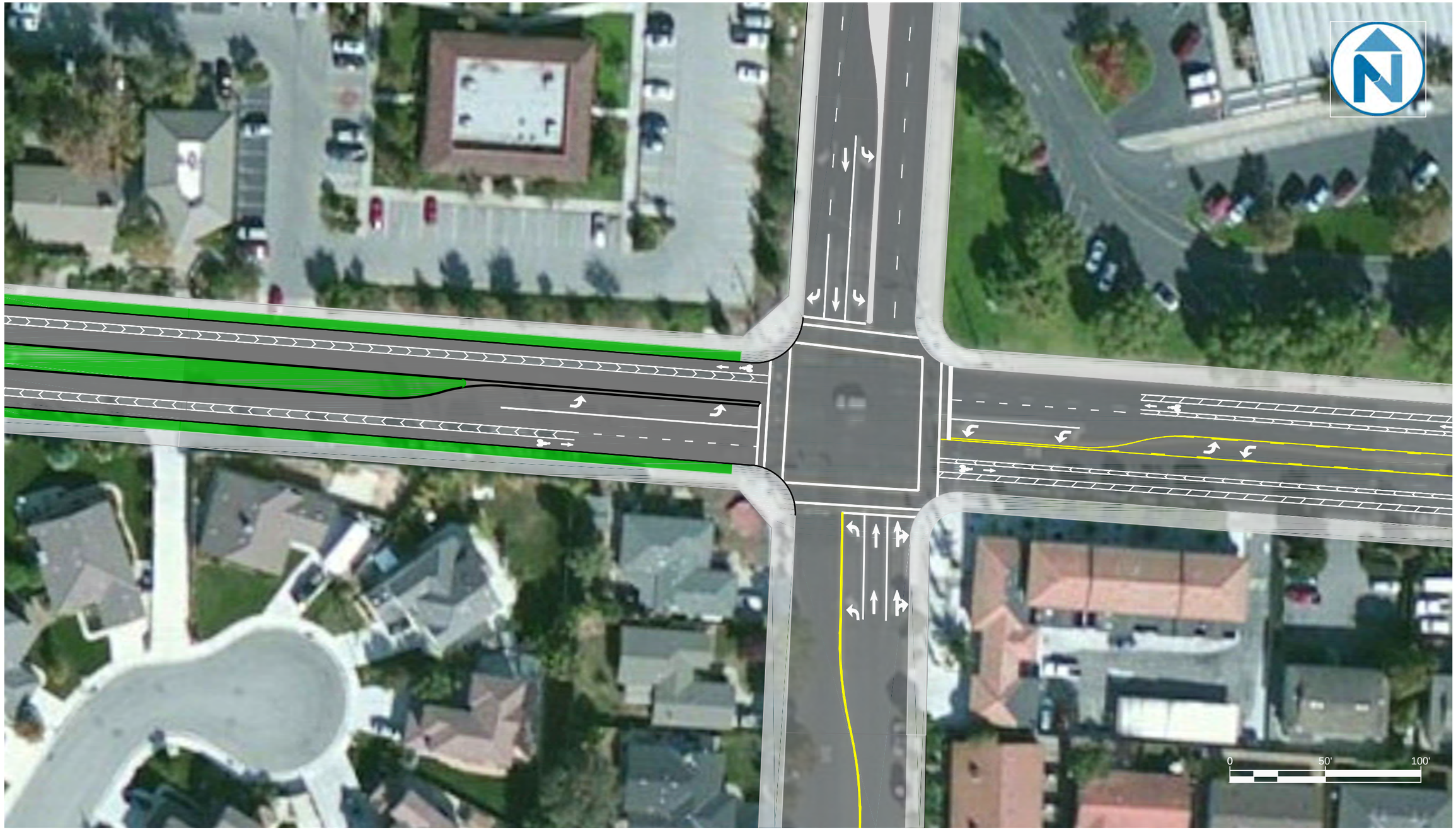
CONCEPTUAL
NOT FOR CONSTRUCTION

NELSON NYGAARD

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
Sunnyslope at Versailles Dr
Hollister, CA

CONCEPTUAL
NOT FOR CONSTRUCTION

NELSON NYGAARD



Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
Sunnyslope at Memorial Dr
Hollister, CA

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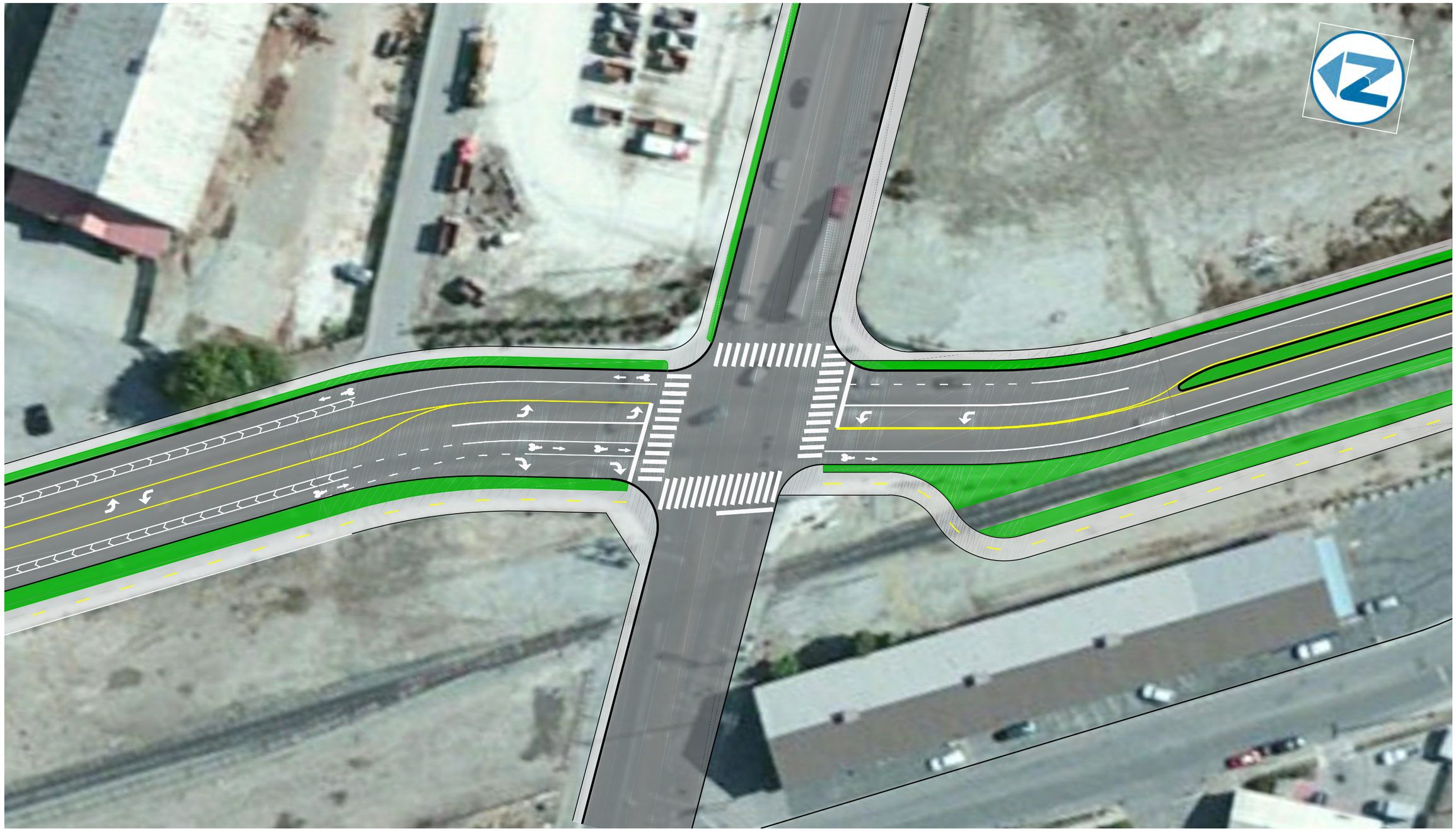

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
McCray Street at South Street
Hollister, CA

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NOT FOR CONSTRUCTION

NELSON NYGAARD

ENTER NOTES HERE

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
McCray Street at Hawkins
Hollister, CA

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NOT FOR CONSTRUCTION

NELSON NYGAARD

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
McCray Street at Gibbs
Hollister, CA

CONCEPTUAL
NOT FOR CONSTRUCTION

NELSON NYGAARD

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
McCray Street between Gibbs Street and Park Street
Hollister, CA

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NOT FOR CONSTRUCTION

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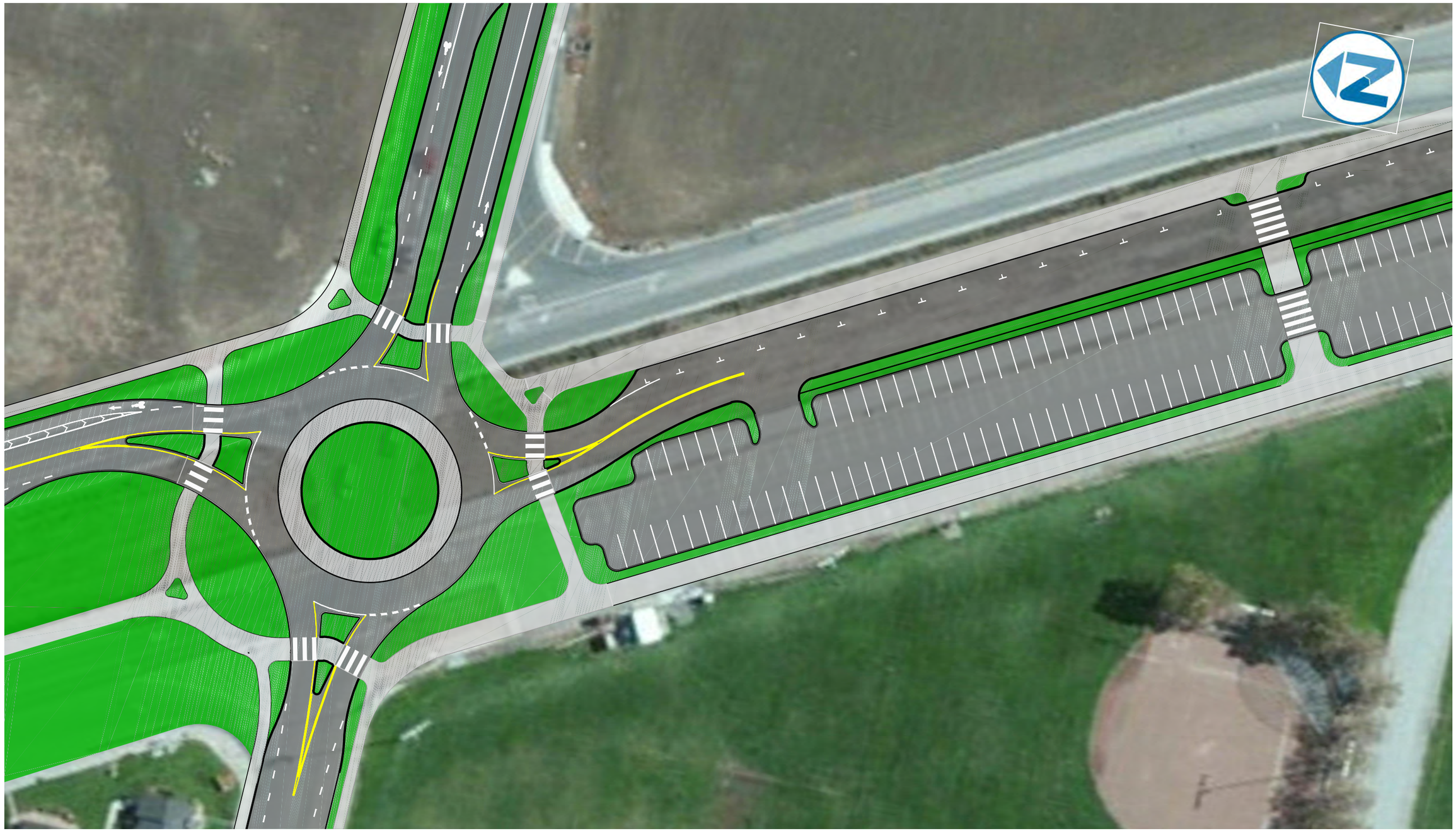

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
McCray Street at Park
Hollister, CA

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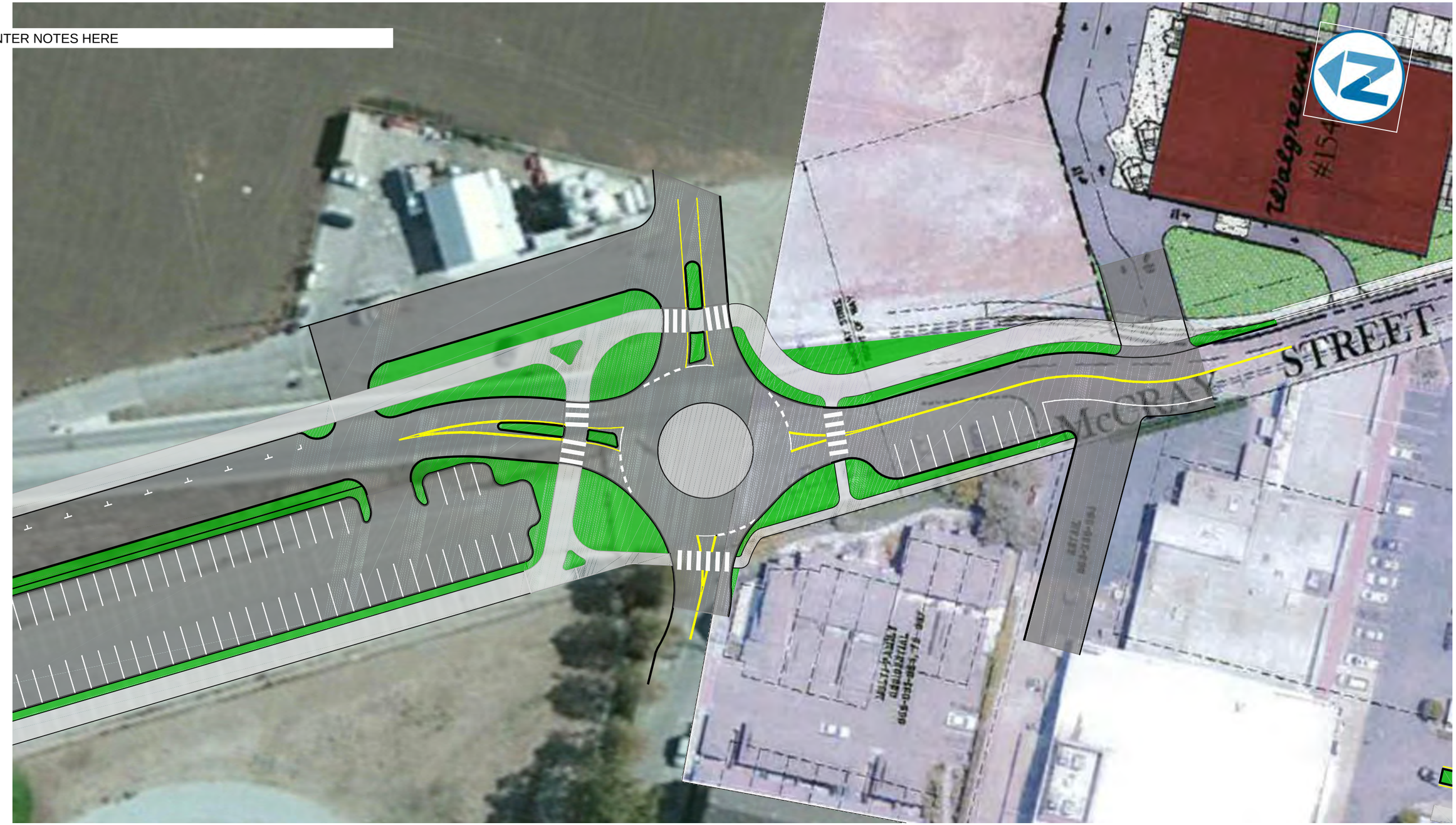

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
McCray Street at Park
Hollister, CA

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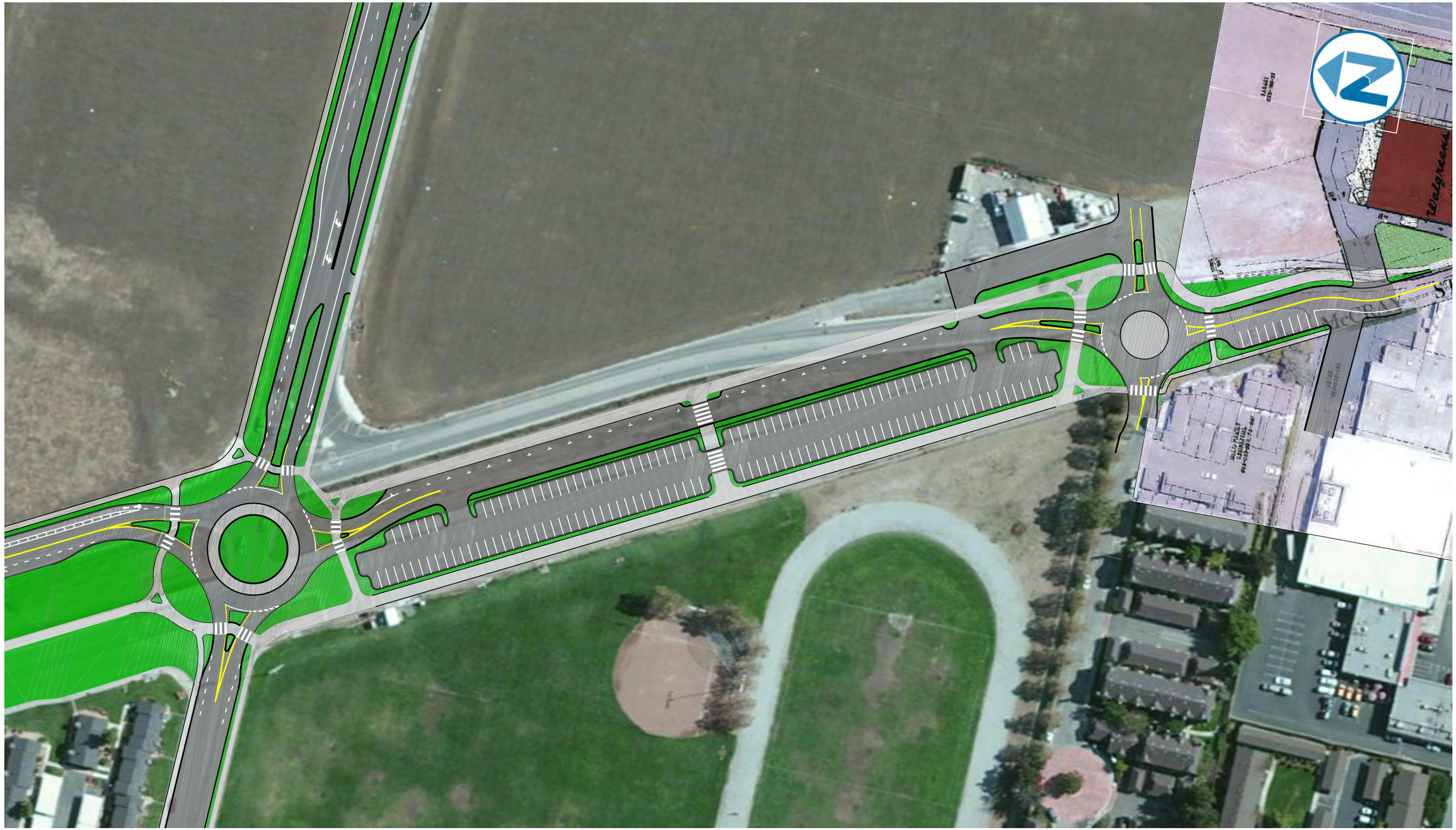

Complete Streets for Nash, Tres Pinos, Sunnyslope and McCray
McCray St between Park St and Gibson Dr
Hollister, CA

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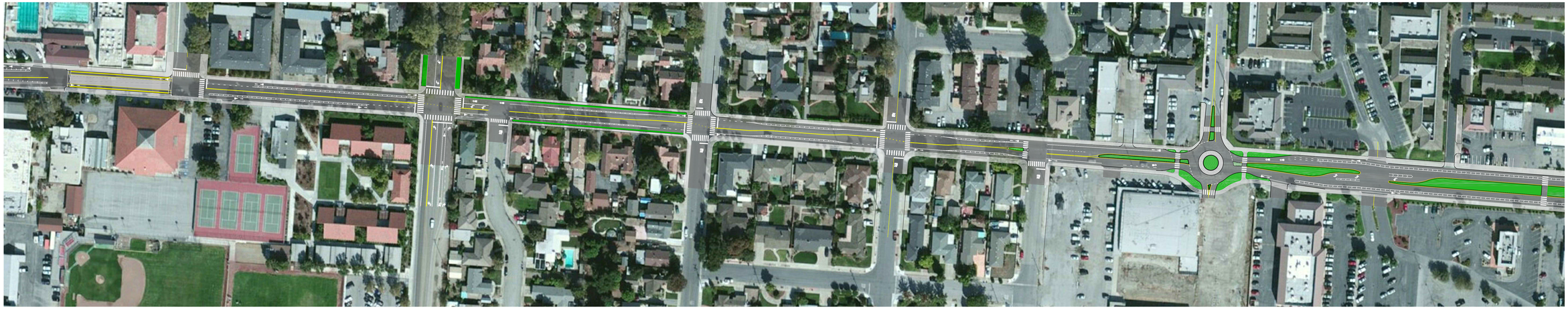

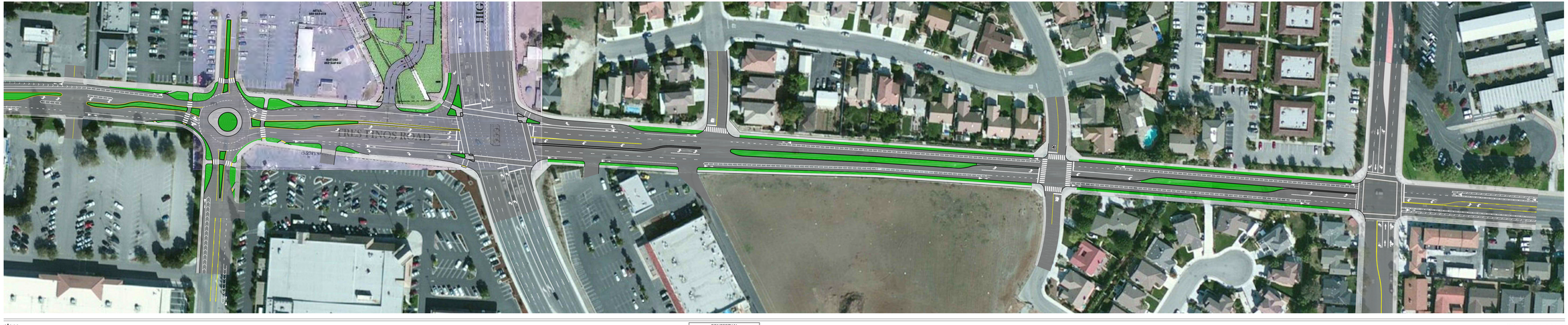

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idor, Scale: 1" = 60'

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NOT FOR CONSTRUCTION

NELSON
NYGAARD

slope

CONCEPTUAL
NOT FOR CONSTRUCTION

NELSON
NYGAARD

APPENDIX C

Funding and Implementation Plan and Matrix

FUNDING AND PROJECT IMPLEMENTATION PLAN

POTENTIAL FUNDING SOURCES

The many improvements identified in this plan need not be implemented all at once. A combination of time and persistence, grant writing, collaborating, and bundling of funding sources will be necessary to bring the community's vision for Nash/Tres Pinos/Sunnyslope Road and McCray Street from concept to construction.

A number of funding sources could help implement report recommendations. They provide potential sources for street design and streetscape improvements, traffic controls, and other infrastructure to support multi-modal access, safety and mobility. Each of these funding sources is subject to changes in state and federal law, budget levels, and target project priorities. A brief summary for each as it existed at the time of this writing is below.

Federal, State and Regional Transportation Sources

Major federal, state and local transportation funding resources are outlined below. For more information on many of these programs, visit the Caltrans Division of Local Assistance website: http://www.dot.ca.gov/hq/LocalPrograms

Also visit the Council of San Benito County Governments web site section on transportation financing at: http://www.sanbenitocog.org/planning.php

Highway Safety Improvement Program (HSIP) and High Risk Rural Roads (HR3)

The new Moving Ahead for the 21st Century (MAP-21) federal surface transportation program authorizes funds for the HSIP program to be administered through State Departments of Transportation. This competitive grant program is based on a safety index, collision and accident data, and a benefit/cost ratio. Eligible projects include: bicycle and pedestrian facilities, correction or improvements to safety in the roadway, traffic calming, traffic signs, sight distance improvements, pavement markings, and roadway realignment. The High Risk Rural Roads (HR3) Program is part of the HSIP Program in MAP-21, not a set-aside as in the previous federal surface transportation act. For more information visit:
http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm

Active Transportation Program (ATP)

State legislation signed into law in September 2013 established a single source of funding for bicycle and pedestrian ("active transportation") infrastructure and non-infrastructure projects. It

consolidates several federal and state sources that were previously administered and distributed under separate programs. These include:

- Federal level: Transportation Alternatives Program (TAP), which includes the Recreational Trails Program and Safe Routes to Schools program.
- State level: Bicycle Transportation Account, Environmental Enhancement and Mitigation Program (partially) and California's state-funded Safe Routes to Schools program.

The program guidelines for funding, application materials and other resources are available at: http://www.dot.ca.gov/hq/LocalPrograms/atp/index.html

Regional Surface Transportation Program (RSTP)

The Regional Surface Transportation Program was established by the State of California to utilize federal Surface Transportation Program funds for a wide variety of transportation projects. A Transportation Alternatives Program for streetscape improvements is part of the program. The program is now being administered under the Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law in 2012. Apportioned through the Council of San Benito County Governments, the program provides funding for bicycle and pedestrian facilities, safety improvements and hazard elimination, traffic management systems, intersections with high accident rates or congestion.

For more information visit:
http://www.dot.ca.gov/hq/transprog/federal/rstp/Official_RSTP_Web_Page.htm

Transportation Development Act (TDA)

TDA provides for two sources of funding: Local Transportation Funds (LTF) and State Transit Assistance (STA). The TDA funds a wide variety of transportation programs, including planning and program activities, pedestrian and bicycle facilities, community transit services, public transportation, and bus and rail projects.

For more information, visit: www.dot.ca.gov/hq/MassTrans/State-TDA.html

Office of Traffic Safety Grants

The Office of Traffic Safety (OTS) administers traffic safety grant funds to reduce traffic deaths, injuries and economic losses. OTS distributes funds statewide in the form of traffic safety grants that are awarded to political subdivisions of the state based upon certain criteria. OTS develops a yearly Highway Safety Plan (HSP) that identifies the primary highway safety problems in the State and provides potential solutions. Identified in conjunction with the National Highway Traffic Safety Administration, OTS has several priority areas for grant funding, including Police Traffic Services, Emergency Medical Services, Roadway Safety, and Pedestrian and Bicycle Safety. Political subdivisions of the state are eligible to apply for and receive OTS grant funding. In addition to state governmental agencies, state colleges, and state universities, subdivisions of the state include local city and county government agencies, school districts, fire departments, and public emergency services providers. Non-profit, community-based organizations (CBOs) are eligible to apply for funding through a political subdivision of the state. For example, a county department may submit a proposal that includes funding for CBO participation. The CBO funding would be included under contractual services in the proposal budget.

For more information visit: http://www.ots.ca.gov/

Monterey Bay Unified Air Pollution Control District (AB2766) Vehicle Emission Reduction Grant Program

The Monterey Bay Unified Air Pollution Control District's Vehicle Emission Reduction Grant Program can be a funding source for bicycle and pedestrian programs. The grants, which can be for up to $200,000, must achieve motor vehicle emission reduction and be implemented within two years. The grants are highly competitive and are based on cost effectiveness, VMT reduction, whether the project is an adopted transportation control measure, and whether it will help leverage other grant funds.

At the time of this writing, the Air District has issued a call for proposals for the latest round of funding (Fiscal Year 2014/15), with applications due June 27, 2014. Under this year's program, award funds up to $400,000 will be available for 75% fixed cost direct emission reduction projects such as, roundabout design and construction and adaptive Traffic Signal Control.

For more information, visit: http://www.mbuapcd.org/programs/grants-incentives/ab2766.html

City Resources

General Fund

Proceeds from the sale of unused portions of McCray Street owned by the City may be available to help fund improvements on the McCray Street corridor.

Traffic Impact Fees Fund

This fund was established as depositories for traffic impact fees. The fees are levied against all new development in the City in order to pay for traffic construction or improvements as a result of City growth. This fund could potentially be a source to assist with the cost of construction of improvements, such as the roundabouts proposed in the plan.

Private Developer Capital Improvements

Future development expansion and new infill development on the east side of McCray Street, on the south side of Sunnyslope near Black Forest Drive, and the south side of Tres Pinos between Cushman and Rancho will require improvements in the public right of way, which could provide a revenue source to help pay for changes proposed in the plan.

City Capital Improvement Projects Program (CIP)

The City relies on a variety of resources to support capital projects and each funding source has its own financing and availability requirements. Capital Project Funds are used to account for financial resources, such as the City general fund and revenues received from development impact fees, special tax measures and state and federal grant programs, to be used for the acquisition of land or construction of major facilities other than those financed proprietary fund types.

The 2012-2013 CIP Program and Budget can be accessed at:
http://hollister.ca.gov/Site/html/gov/office/engineer.asp

Business improvement District (BID)

A Business Improvement District (BID) is a mechanism of funding improvements through assessments to businesses and real property within the established BID boundaries. Under the Property and Business Improvement District Law of 1994, revenues from BID assessments may be used to fund capital improvements and maintenance costs for projects such as parking facilities, street furniture, public restrooms, art, parks, street and streetscape enhancements, and plazas. A BID formation petition, which is initiated by property owners, requires the signature of more than 50 percent of the property owners, weighted by assessment liability. BIDs are formed with an initial term of five years and may be renewed for another five years. However, if debt is issued to finance capital improvements, assessments can be levied until the bonds mature. The term of debt service for BID bonds is not to exceed 30 years. Without bond issuance, the maximum term for a BID district is 10 years.

Infrastructure Financing District

Infrastructure financing districts (IFDs) allow cities and counties to pay for public works projects by diverting property tax increment revenues from the general fund for up to thirty years. IFDs are a form of tax increment financing based on the idea that public enhancements would cause property values to rise, generating higher property tax revenues. IFDs can issue bonds secured by expected future property taxes to fund upfront infrastructure development costs. IFD funds can be used to finance construction of and improvements to highways, transit, water and sewer systems, flood control systems, childcare facilities, libraries, parks, and solid waste facilities. IFDs cannot pay for maintenance, repairs, operating costs, and services. To form an IFD, the City must develop an infrastructure plan, send copies to every landowner, consult with other local governments, and hold a public hearing. Every local agency that will contribute its property tax increment revenue to the IFD must approve the plan. Schools cannot shift their property tax increment revenues to the IFD. Once the other local officials approve, the County must still get the approval of the voters in the IFD area to:

- Form the IFD (requires 2/3 voter approval);
- Issue bonds (requires 2/3 voter approval); and
- Set the IFD's appropriations limit (majority voter approval).

Economic Development Resources

USDA-Rural Business Enterprise Grants (RBEG)

These grants are available to rural public entities (towns, communities, State agencies, and authorities), Indian tribes and rural private non-profit corporations. The primary requirement is the creation of jobs and economic development, with an emphasis on small business. They can be used for training, technical assistance, capital expenditures, parking, access streets and roads, façade improvements, and other uses. They typically range from $10,000 to $200,000.

For more information, visit: www.rurdev.usda.gov/rbs/busp/rbeg.htm.

Infrastructure State Revolving Fund (ISRF) Program

Subdivisions of a local government, which includes cities and counties and joint power authorities, can apply for low-cost financing ranging from $250,000 to $10,000,000 with terms of up to 30 years through the ISRF program for a wide variety of infrastructure projects.

Eligible project categories include city streets, county highways, state highways, drainage, water supply and flood control, educational facilities, environmental mitigation measures, parks and recreational facilities, port facilities, public transit, sewage collection and treatment, solid waste collection and disposal, water treatment and distribution, defense conversion, public safety facilities, and power and communications facilities.

For more information, visit: http://www.ibank.ca.gov/infrastructure_loans.htm

Additional Resources

Other useful information resources for funding strategies and technical assistance are listed below.

- California Community Economic Development Association: http://www.ccedacom/Home.html
- Rural Community Assistance Corporation: www.rcac.org
- U.S. Small Business Administration: www.sba.gov
- U.S. Economic Development Administration: http://www.eda.gov/grants.htm

PROJECT IMPLEMENTATION PLAN

The implementation plan will help streamline projects according to their relative financial impacts and potential for integration into existing planned roadway maintenance. This plan guides the City and community stakeholders to seek proper funding sources and implement projects at the most sensible and effective time.

Improvement Types

Projects are initially categorized by intensity, which considers both financial costs and timing horizon. These intensity ranges are estimated and classified as such:

- Low intensity: Under $250,000
- Medium intensity: $250,000 to $1,000,000
- High intensity: Over $1,000,000

Low-intensity improvements across the overall study area can be collectively categorized as its own package. For example, adding or enhancing crosswalk markings can be considered part of the established maintenance and striping schedules, with relatively low additional costs or preparation required.

High-intensity improvements are focused on specific corridor sections, and often involve built infrastructure and longer project timelines. Implementing a roundabout, for example, would likely require the security of additional capital funds, along with adequate planning for construction, rerouting of traffic, and other factors associated with major infrastructure projects.

Projects and Recommended Implementation Schedule

A summary table of the funding and implementation plan is attached, detailing individual improvement packages, timing, costs, and potential funding sources.

Low-Intensity Improvements

#	PROJECT	
	OVERALL IMPROVEMENTS	
1	**High-Visibility Crosswalks** New or enhanced crosswalk markings at all study area intersections. Continental crosswalk markings (also known as "ladder" or "zebra" markings) have been shown to be significantly more visible to drivers than common transverse markings (two parallel lines across the street) both at day and night.[1] These markings can be created during standard restriping operations.	$210,000
2	**Signal Timing** Vehicle and pedestrian signal timing improvements at all study area intersections, adjusting cycle lengths and reducing delay for all users. Signal timing changes are best coordinated and implemented simultaneously within the corridor to prevent unforeseen traffic flow problems.	$90,000
	NASH/TRES PINOS/SUNNYSLOPE ROAD	
3	**Nash Western Section (Short-Term)** Restriping from Powell St to San Benito St. This package includes only restriping for a road diet and buffered bicycle lanes, excluding any long-term built solution for the San Benito High School crossing (see Project 7 below). In the short term, this restriping should be extended through the high school portion of the corridor.	$70,000
4	**San Benito/Nash Intersection** Leading Pedestrian Interval	$20,000
6	**Sunnyslope Road (Short-Term)** Restriping from Airline Hwy to El Toro Dr. This project covers the short-term design, including a road diet, buffered bicycle lanes, and hatched striping over designated median space.	$190,000
10	**Airline Highway Intersection** Built infrastructure and geometric changes. New, channelized right-turn islands are reconfigured from the former island design for better pedestrian visibility and lower turning speeds for turning vehicles at the intersection of Tres Pinos Rd and Airline Hwy.	$170,000
	MCCRAY STREET	
12	**McCray Street Southern Section (Short-Term)** Restriping from south of Gibson Dr to South St, narrowing lanes and adding (buffered, where space permits) bicycle lanes. This is the short-term option.	$160,000
13	**McCray Street Northern Section (Short-Term)** Restriping from South St to Santa Ana Rd, narrowing lanes and adding (buffered, where space permits) bicycle lanes. This is the short-term option.	$100,000

Medium- and High-Intensity Improvements

#	PROJECT	
	NASH/TRES PINOS/SUNNYSLOPE ROAD	
5	**Nash/Tres Pinos Central Section (Short-Term)** Restriping from San Benito St to Airline Hwy. The long-term solution here includes built infrastructure such as roundabouts and wide planted medians, as seen in the supplied plan	$280,000

[1] Federal Highway Administration. (2010). Crosswalk Marking Field Visibility Study. Obtained from: http://www.fhwa.dot.gov/publications/research/safety/pedbike/10067/. Site last accessed: May 27, 2014.

drawings. The interim solution, however, would focus on restriping for a road diet and buffered, dedicated bicycle lanes, similar to Project 3.

7	**San Benito High School (Long-Term)** Built infrastructure for shared space/partial closure. This long-term solution would require a raised, textured surface at curb height, along with moveable bollards that close and open the crossing on a schedule to be determined by the school, city staff, and other stakeholders.	$330,000
8	**Rancho Drive Roundabout (Long-Term)** Built infrastructure from Cushman Dr to the westernmost shopping center entrance on Tres Pinos Rd. This is the long-term solution both for the roundabout at Nash Rd and Rancho Dr as well as built, planted medians immediately to the west and east of it.	$620,000
9	**Ladd Lane Roundabout (Long-Term)** Built infrastructure from westernmost shopping center entrance to Airline Hwy. This is the long-term, very high intensity solution that includes built, planted medians from the first shopping center entrances east of Rancho Dr to Airline Hwy, with the centerpiece being a multi-lane roundabout at Tres Pinos Rd and Ladd Ln.	$660,000
11	**Sunnyslope Road (Long-Term)** Built infrastructure from Airline Hwy to Memorial Dr. This project focuses on widening the existing sidewalks to include grassy or planted buffers and built medians in addition to a road diet and buffers for existing bicycle lanes. The change in available curb-to-curb width would require restriping according to the included plan drawings.	$640,000
	MCCRAY STREET	
14	**Park Street Roundabout (Long-Term)** Built infrastructure from southern parking access to just north of Park St. This is a high intensity project that includes two single-lane roundabouts on McCray St at Park St and Gibson Dr, respectively, a major street reconfiguration to accommodate a parking lot for Rancho San Justo Park, and two-way street between the roundabouts.	$1,670,000
15	**McCray Street Northern Section (Long-Term)** Built infrastructure from Park St to 4th/Sally/Meridian St. This high-intensity project includes restriping, street reconfiguration from the Park St roundabout northward to the intersection of McCray St and 4th/Sally/Meridian St, and an extension of the multi-use path north of Hawkins St. It also includes a new public open space where Prospect St is closed between Park St and the Park St Apartments driveway.	$2,340,000

		TIMING			COST		FEDERAL, STATE, AND REGIONAL RESOURCES						CITY RESOURCES			ECONOMIC DEVELOPMENT RESOURCES				
#	PROJECTS	Short-term (1-2 yrs)	Mid-term (2-5 yrs)	Long-term (> 5 yrs)	Estimated Range	Cost Estimate*	Highway Safety Improvement Program (HSIP)	Active Transportation Program (ATP)	Regional Surface Transportation Program (RSTP)	Transportation Development Act (TDA)	Office of Transportation Safety (OTS)	AB2766 Grant Program (AB2766)	Capital Improvement Project Funds (CIP)	Business improvement District (BID)	Infrastructure Financing District (IFD)	General Fund	Traffic Impact Fees Fund	Private Developer Capital Improvements	USDA-Rural Business Enterprise Grants (RBEG)	Infrastructure State Revolving Fund Program (ISRF)
	OVERALL IMPROVEMENTS																			
1	**HIGH-VISIBILITY CROSSWALKS** New or enhanced crosswalk markings at all study area intersections and mid-block locations	X			LOW	$ 210,000	X	X	X	X	X				X	X	X	X		X
2	**SIGNAL TIMING** Vehicle and pedestrian signal timing improvements at all study area intersections	X			LOW	$ 90,000	X	X	X	X	X	X			X	X	X	X		X
	NASH/TRES PINOS/SUNNYSLOPE ROAD																			
3	**NASH WESTERN SECTION (SHORT-TERM)** Restriping from Powell St to San Benito St	X			LOW	$ 70,000	X	X	X	X	X	X			X		X			X
4	**SAN BENITO/NASH INTERSECTION** Leading Pedestrian Interval	X			LOW	$ 20,000	X	X	X	X	X	X			X		X			X
5	**NASH/TRES PINOS CENTRAL SECTION (SHORT-TERM)** Restriping from San Benito St to Airline Hwy	X			MED	$ 280,000	X	X	X	X	X	X			X		X			X
6	**SUNNYSLOPE ROAD (SHORT-TERM)** Restriping from Airline Hwy to El Toro Dr	X			LOW	$ 190,000	X	X	X	X	X	X			X		X			X
7	**SAN BENITO HIGH SCHOOL (LONG-TERM)** Built infrastructure, including raised pavement and bollards, for shared space/partial closure		X		HIGH	$ 330,000	X	X	X	X			X		X		X			X
8	**RANCHO DRIVE ROUNDABOUT (LONG-TERM)** Built infrastructure, including center medians, from Cushman to westernmost shopping center entrance		X		HIGH	$ 620,000			X			X	X	X	X		X	X	X	X
9	**LADD LANE ROUNDABOUT (LONG-TERM)** Built infrastructure, including center medians, from westernmost shopping center entrance to Airline Hwy			X	MED	$ 660,000			X			X	X	X	X		X	X	X	X
10	**AIRLINE HIGHWAY INTERSECTION** Built infrastructure and geometric changes, including redesigned channelizing right-turn islands			X	LOW	$ 170,000	X	X	X	X			X		X		X			X
11	**SUNNYSLOPE ROAD (LONG-TERM)** Built infrastructure, including center medians and sidewalk widening from Airline Hwy to Memorial Dr		X		MED	$ 640,000	X	X	X	X			X	X	X		X	X	X	X
	MCCRAY STREET																			
12	**MCCRAY STREET SOUTHERN SECTION (SHORT-TERM)** Restriping from south of Gibson Dr to South St	X			LOW	$ 160,000	X	X	X	X	X	X			X	X	X			X
13	**MCCRAY STREET NORTHERN SECTION (SHORT-TERM)** Restriping from South St to Santa Ana Rd	X			LOW	$ 100,000	X	X	X	X	X	X			X	X	X			X
14	**PARK STREET ROUNDABOUT (LONG-TERM)** Built infrastructure from southern parking access to just north of Park		X		HIGH	$ 1,670,000			X			X	X	X	X	X	X	X	X	X
15	**MCCRAY STREET NORTHERN SECTION (LONG-TERM)** Built infrastructure from Park St to 4th St/Sally St/Meridian St			X	HIGH	$ 2,340,000			X			X	X	X	X	X	X	X	X	X

Low <$250k
Med $250k - $1M
High >$1M

*See attached detailed estimate of probable cost.

APPENDIX D

Detailed Cost Estimate

HOLLISTER COMPLETE STREET

ESTIMATE OF PROBABLE COST

			PRORATED REMAINING ITEMS		TOTAL	PREVIOUSLY PLANNED
No.	**DESCRIPTION**	**AMOUNT**	**%**	**AMOUNT**	**AMOUNT**	**AMOUNT**
	OVERALL IMPROVEMENTS					
1	HIGH-VISIBILITY CROSSWALKS	$120,000	2.8	$85,552	**$205,552**	$80,000
2	SIGNAL TIMING	$50,000	1.1	$35,646	**$85,646**	$50,000
	NASH/TRES PINOS/SUNNYSLOPE ROAD					
3	NASH WESTERN SECTION (SHORT-TERM)	$37,395	0.9	$26,660	**$64,055**	$30,000
4	SAN BENITO/NASH INTERSECTION - LEADING PED INTERVAL	$7,500	0.2	$5,347	**$12,847**	$7,500
5	NASH/TRES PINO CENTRAL SECTION (SHORT-TERM)	$161,771	3.7	$115,331	**$277,102**	$50,000
6	SUNNYSLOPE ROAD (SHORT-TERM)	$107,640	2.5	$76,740	**$184,380**	$30,000
7	SAN BENITO HIGH SCHOOL (LONG-TERM)	$187,254	4.3	$133,499	**$320,753**	$500,000
8	RANCHO DRIVE ROUNDABOUT (LONG-TERM)	$360,701	8.3	$257,154	**$617,855**	$1,500,000
9	LADD LANE ROUNDABOUT (LONG-TERM)	$379,978	8.7	$270,898	**$650,876**	$2,000,000
10	AIRLINE HIGHWAY INTERSECTION (LONG-TERM)	$95,201	2.2	$67,872	**$163,073**	$100,000
11	SUNNYSLOPE ROAD (LONG TERM)	$368,000	8.4	$262,358	**$630,358**	$700,000
	MCCRAY STREET					
12	MCCRAY STREET SOUTHERN SECTION (SHORT-TERM)	$91,295	2.1	$65,087	**$156,382**	$50,000
13	MCCRAY STREET NORTHERN SECTION (SHORT-TERM)	$55,461	1.3	$39,540	**$95,001**	$50,000
14	PARK STREET ROUNDABOUT (LONG-TERM)	$973,013	22.3	$693,690	**$1,666,703**	$1,500,000
15	MCCRAY STREET NORTHERN SECTION (LONG-TERM)	$1,361,463	31.3	$970,627	**$2,332,090**	$400,000
	SUBTOTAL OF ABOVE ITEMS	**$4,356,672**	100	$3,106,000	**$7,462,672**	$7,047,500
	REMAINING ITEMS					
	STREET FURNITURE	$100,000				
	SURVEY MONUMENT	$10,000				
	REMOVE CONCRETE (CURB AND GUTTER, SIDEWALK)	$30,000				
	CONSTRUCTION STAKING	$100,000				
	TEMPORARY EROSION CONTROL	$10,000				
	STAGING COSTS (CONSTRUCTION AREA SIGNS, TRAFFIC CONTROL, K-RAIL)	$20,000				
	TEMPORARY TRAFFIC STRIPES & PAVEMENT MARKINGS	$10,000				
	JOB SITE MANAGEMENT	$50,000				
	PREPARE STORM WATER POLLUTION PREVENTION PLAN	$10,000				
	CLEARING AND GRUBBING	$30,000				
	ROADWAY EXCAVATION	$30,000				
	EROSION CONTROL	$50,000				
	ROADSIDE SIGNS	$20,000				
	DRAINAGE IMPROVEMENTS	$200,000				
	UTILITY RELOCATIONS	$100,000				
	STREET LIGHTING	$300,000				
	MOBILIZATION (10% OF CONSTRUCTION COSTS)	$543,000				
	CONTINGENCY (25%)	$1,493,000				
	SUBTOTAL OF REMAINING ITEMS	**$3,106,000**				
	TOTAL CONSTRUCTION	**$7,462,672**				

HOLLISTER COMPLETE STREET
ESTIMATE OF PROBABLE COST
QUANTITIES BACK-UP

#	Extra Items	Major Street	Cross Street	Proposed Work	Resurfacing Area SF	Resurfacing UNIT PRICE	Resurfacing AMOUNT	HMA (TYPE A) Area SF	HMA (TYPE A) Depth FT	HMA (TYPE A) CY	HMA (TYPE A) Ton	HMA (TYPE A) UNIT PRICE	HMA (TYPE A) AMOUNT	Concrete: Sidewalk Area SF	Sidewalk UNIT PRICE	Sidewalk AMOUNT	Trail West of McCray SF	Trail UNIT PRICE	Trail AMOUNT	Raised Pedestrian Crosswalk SF	Raised Pedestrian UNIT PRICE	Raised Pedestrian AMOUNT	Truck Apron SF	Truck Apron UNIT PRICE	Truck Apron AMOUNT	Curb: Gutter Type 1 LF	Curb: Gutter Type 1 UNIT PRICE	Curb: Gutter Type 1 AMOUNT	Curb: Median Type 2 LF	Curb: Median Type 2 UNIT PRICE	Curb: Median Type 2 AMOUNT	Ramps EA	Ramps UNIT PRICE	Ramps AMOUNT	AB (Cl 2) Area SF	AB (Cl 2) Depth FT	AB (Cl 2) CY	AB (Cl 2) UNIT PRICE	AB (Cl 2) AMOUNT	Striping: Lane Lines LF	Striping: Markings UNIT PRICE	Striping: Markings AMOUNT	Striping: Markings SF	Striping: Markings UNIT PRICE	Striping: Markings AMOUNT	Landscaping: Median Area SF	Landscaping: Median UNIT PRICE	Landscaping: Median AMOUNT	Landscaping: Linear Park Area SF	Landscaping: Linear Park UNIT PRICE	Landscaping: Linear Park AMOUNT	Landscaping: Roundabout Center Area SF	Landscaping: Roundabout Center UNIT PRICE	Landscaping: Roundabout Center AMOUNT
		Nash Rd																																															
			Powell St																																															
			Sutter St																																														
			West St		15,730																										1	$3,000	$3,000				1,320												
				Raised Crossing	10,100															8,950	$10	$89,500				235	$35	$8,225							8,950	0.50	166	$32	$5,304	2,200			730								
																										235	$35	$8,225																				
			Monterey St		22,320																										1	$3,000	$3,000				2,640			560								
			San Benito St																																						500								
7	SUBTOTAL																				$89,500						$16,450				$6,000					$5,304												
	BOLLARDS																																				$60,000												
	REMOVE PAVEMENT																																				$10,000												
7	TOTAL																																				$187,254												
3	SUBTOTAL				48,150	$0.50	$24,075																															6,160	$1	$6,160	1,790	$4	$7,160							
3	TOTAL																																									$37,395							
			San Benito St		35,120																										1						2,820			500								
			Sally St		30,520																										2						2,040			1,100								
			Prune St		15,620																																	1,380			800								
			Cushman St		6,830																																	1,350			400								
		Tres Pinos Rd																																														
			Rancho Dr	Roundabout				11,100	0.42	173	364	$75	$27,273															185			385			8			11,100	0.67	275			560		500	8,240			760	$20	$15,200
														6,080	$5	$30,400										270			265						6,080	0.33	74										
																							1,360	$10	$13,600	135			160						1,360	0.50	25										
																										265			52																			
					12,860																								484									6,840		200	7,460							
					37,760																					265			665																			
					31,820																								400																			
				Mid Block Xing	8,313																										2																			
8	SUBTOTAL												$27,273			$30,400								$13,600	1,120	$35	$39,200	2,541	$30	$76,230	13	$3,000	$39,000			375	$32	$11,998				15,700	$4	$62,800						
	REMOVE PAVEMENT																																																
	GRADING																																																
8	TOTAL																																																
			Ladd Lane	Roundabout				20,160	0.42	314	660	$75	$49,533															427			433			8	$3,000	$24,000	20,160	0.67	500			2,360		600	12,800	$4	$51,200	1,200	$20	$24,000
														9,070	$5	$45,350										146			63						9,070	0.33	111										
																							2,040	$10	$20,400	400			263						2,040	0.50	38										
																										365			57																			
																													152																			
																													58																			
																													208																			
																													126																			
					10,522																								70																			
9	SUBTOTAL												$49,533			$45,350								$20,400	1,338	$35	$46,830	1,430	$30	$42,900			$24,000			649	$32	$20,765						$51,200						
	REMOVE PAVEMENT																																																
	GRADING																																																
9	TOTAL																																																
																										185			830									3,080			3,150	$4	$12,600						
																										110			210																			
																													130																			
			Airline Hwy		83,176									4,670	$5	$23,350															4	$3,000	$12,000	4,670	0.33	57	$32	$1,826	4,800		1,000								
10	SUBTOTAL															$23,350									295	$35	$10,325	1,170	$30	$35,100			$12,000					$1,826						$12,600						
10	TOTAL																																											$95,201						
5	SUBTOTAL				272,541	$0.50	$136,271																															25,230	$1	$25,230	5,100	$4	$20,400							
5	TOTAL																																									$161,771							
LONG TERM OPTION		Sunnyslope Rd																								175			135									1,750			2,500								
																										202																							
																										173																							
																										185																							
			Black Forest Dr																							760			1,300			2						160		300	12,760								
																										730												2,680											
			Versailles Dr		73,050																										4						190		1,020										
																										680			1,200									3,025			6,300								
			Memorial Dr		41,150																					680						2						1,350		700										
			El Toro Dr																																			2,900												
11	SUBTOTAL				114,200	$0.50	$57,100																			3,585	$35	$125,475	2,635	$30	$79,050	8	$3,000	$24,000						12,055	$1	$12,055	2,020	$4	$8,080	21,560	$4	$86,240						
11	TOTAL																																											$368,000						
		McCray St																																																
			Tres Pinos																																															
				Walgreens										1,140												253						2			1,140	0.33	14			800			4,140								
														3,240												244									3,240	0.33	40										
			Gibson Dr	Roundabout				10,840	0.42	169	355																		160			8			10,840	0.67	269					700	5,740							
																							1,960						115						1,960	0.50	36										
				Parking Area	40,800			23,100	0.42	359	757			8,930												526									23,100	0.67	573			2,000			9,190							
														7,920												383			130						8,930	0.33	109										
														2,490												1,195									7,920	0.33	97										
														1,400												176									2,490	0.33	30										
																										1,274									1,400	0.33	17										
				Mid Block Xing																											4																			
			E Park St	Roundabout				16,000	0.42	249	524																								16,000	0.67	397										
														3,990															525			8			3,990	0.33	49			2,310		900	22,000			4,000				
														640															115						640	0.33	8										
														2,820															440						2,820	0.33	34										
				Park St Eastside	32,350																		3,070						1,173						3,070	0.50	57										
14	SUBTOTAL									1,636	$75	$122,703	32,570	$5	$162,850							5,030	$10	$50,300	4,051	$35	$141,785	2,658	$30	$79,740	22	$3,000	$66,000			1,730	$32	$55,375				41,070	$4	$164,280			4,000	$20	$80,000
	REMOVE PAVEMENT																																														$20,000
	GRADING																																														$30,000
14	TOTAL																																														$973,033
					7,800											5,357											180						5,357	0.33	65			1,850				28,320							
														7,563												779									7,563	0.33	92							22,240						
														1,820												1,002						2			1,820	0.33	22						2,490						
																																													2,180						
																																													2,000						
			Gibbs Dr	New Intersection	12,510			2,690	0.42	42	88															1,300									2,690	0.67	67			400		350								
					15,010												7,568									2,275						3			7,568	0.33	92			4,800				30,000						
														4,050												900									4,050	0.33	50						3,370						
								5,300	0.42	82	174																								5,300	0.67	132						250						
																																													4,900						
			Hawkins St	Driveway East	13,030																																												
					14,330												8,492									611			625			3			8,492	0.33	104			3,420				38,660						
														2,570																					2,570	0.33	31						2,400						
														1,950																					1,950	0.33	24						2,780						
																																													270						
12	SUBTOTAL				135,830	$0.50	$67,915																															15,580	$1	$15,580	1,950	$4	$7,800							
12	TOTAL																																									$91,295						
			Hillcrest Rd/South St																																							1,400	$4	$5,600	700						
					76,900	$0.50	$38,450										20,870														2			20,870	0.33	255			11,410	$1	$11,411				15,820						
			Meridian St											10,920																					10,920	0.33	133						7,960						
13	SUBTOTAL						$38,450																																		$11,411		$5,600						
13	TOTAL																																										$55,461						
15	SUBTOTAL									262	$75	$19,631	28,873	$5	$144,365	42,287	$5	$211,435							6,867	$35	$240,345	805	$30	$24,150	10	$3,000	$30,000			1,068	$32	$34,176				40,220	$4	$160,880	124,120	$4	$496,480						
15	TOTAL																																											$1,361,463						
Short Term Option		Sunnyslope Rd																																															
			Airline Hwy																																				2,800												
			Black Forest Dr																																				5,120		300										
			Versailles Dr																																						1,020										
			Memorial Dr																																				4,800		700										
			El Toro Dr		162,000	$0.50	$81,000																																5,840												
6	SUBTOTAL						$81,000																															18,560	$1	$18,560	2,020	$4	$8,080							
6	TOTAL																																									$107,640							